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Folder Title:
Iraqi Oil Spill [1]

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U.S. Department
of Transportation

United States
Coast Guard



U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 49
26 APR 1991

1. International Interagency Assessment Team (IIAT) Report:

A. Cleanup continues at sites previously identified, however, due to poor visibility as a result of heavy smoke, a slow overflight at low level was made over the work site and IIAT personnel were able to observe the work in progress. Work satisfactory and on schedule.

B. Gary Ott and Gary Van Den Berg (NOAA), spent two days (April 21 & 22) in Kuwait oil fields with EPA Air Team.

C. IMO met with the Executive Director of Aramco and the Manager of Industrial and Environmental Affairs. They assured IMO that the protective booming for the unoiled salt marsh at Saffaniyah Bay would be provided.

D. Planning Committee meetings continue to be productive. IMO has recommended a new project to establish a test program to evaluate various cleanup techniques that will be the least obtrusive to the salt marshes. The output of this effort will be to establish a long range approach to the rehabilitation of marsh lands.

E. Currently only two international wildlife experts are in country with any spill experience, and one of those is scheduled to depart by the end of the April. Local wildlife experts have extremely limited, or no experience in assessing damages caused by a spill. With the shift in operations to shoreline assessment and cleanup, the need for a wildlife and habitat expert with oil spill experience is significant. IIAT has discussed this with Bechtel Environmental and recommended it contract someone to provide the service. Bechtel has not taken any action on this issue.

F. Dr. Alam (KFUPM), restated the Kingdom's policy on bioremediation and emphatically stated that no field tests were being planned. The University is however in the process of developing a more extensive test program using a larger tank to better simulate actual Gulf conditions. IMO passed its interests to Dr. Alam in providing testing procedures and exchanging ideas. This project would be funded by a separate IMO fund, and would first require a written request from the University.

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G. USCG AVDET Bahrain has received authorization from CGHQ to depart theater NLT 30 April. The last Coast Guard SLAR Flight is scheduled for 27 April.

H. Equipment donated by Luxembourg remains tied up by customs at the UAE/Saudi border. To date this issue remains unresolved.

I. On April 23 USIAT members conducted an extensive survey of oil sources in Kuwait and of the Kuwaiti shoreline from a Navy SH-3 helo. Only light to moderate sheen noted at Al Ahmadi refinery, with only small quantity of black oil observed. Outflow of oil from drainage canal to treatment plant has been stopped by a fresh sand berm positioned across the outfall. No oil building up behind berm. IMO was considering securing the sources as one of their projects under the Gulf Oil Pollution Disaster Fund, but have closed the project with no expenditure of funds.

J. Spring high tides appear to have refloated little oil with the exception of the Tanajib area, where one of 3 remaining unoiled salt marshes was impacted by refloated oil. Quick action could have prevented oiling of this salt marsh if recommendation made several days ago by IAT and the National Wildlife Commission had been accepted. As a result, Dr. Tawfiq has ordered Bechtel and Crowley to develop a quick approval process for emergencies. Dr. Tawfiq also expressed displeasure over lack of action, the amount of paperwork, and the number of meetings now being held.

K. Tarballs reported from Abu Ali to Bahrain Causeway. MEPA is developing a plan to protect several water intakes in this area. Concern over tarballs affecting the desalination plants continues. The causeway to Bahrain has one desal plant which has been identified as a high priority. The 25 April evening meeting again expressed desire to obtain info on intake design so that appropriate planning can be undertaken for netting.

L. Aramco continues to work in the Manifa and Saffaniyah area. They report a significant amount of collectable oil in these locations. Total Aramco recovery reported as of 23 April is 764,884 bbls oil/water. MEPA project at Brice Bay and the Mangrove areas on Gurmah Island considered only 20% complete. Three extra pumps will be brought on line, so this output should speed up flushing in this area.

M. OOPS personnel will be departing area on Monday 4/29, however, they intend on leaving three personnel on-scene for an additional 10 days to monitor the area.

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N. IMO has contracted for the installation of boom near Tanajib and Saffaniyah, to protect a salt marsh that is not polluted with oil. The contractor on this project is the Target Construction Company Ltd.

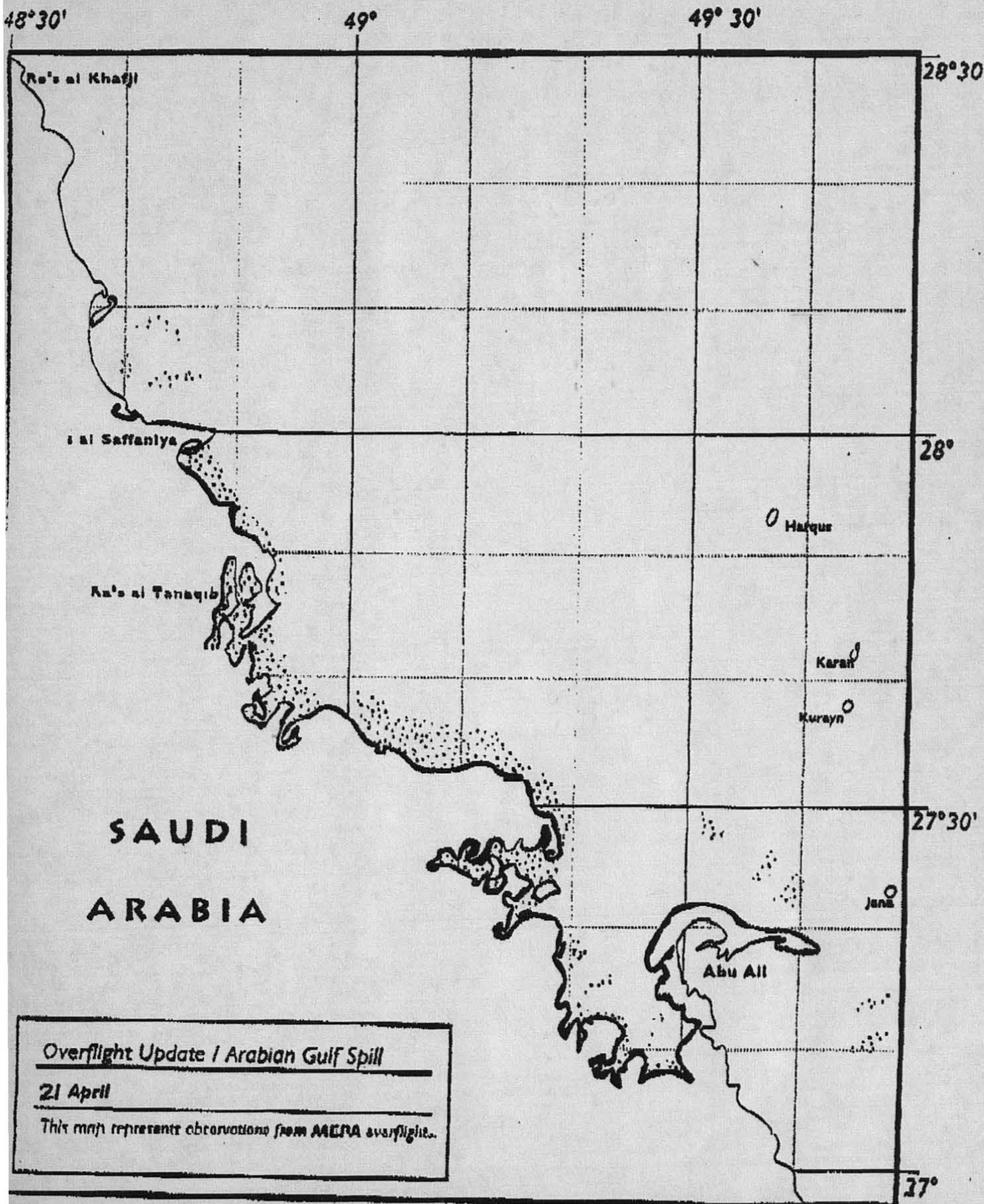
O. Relief of USCG personnel by new USCG team completed. CDR Whipple and MK1 Wyatt, USCG, are the two new team members. NOAA team relief also completed. Gary Van Den Berg is now the NOAA representative.

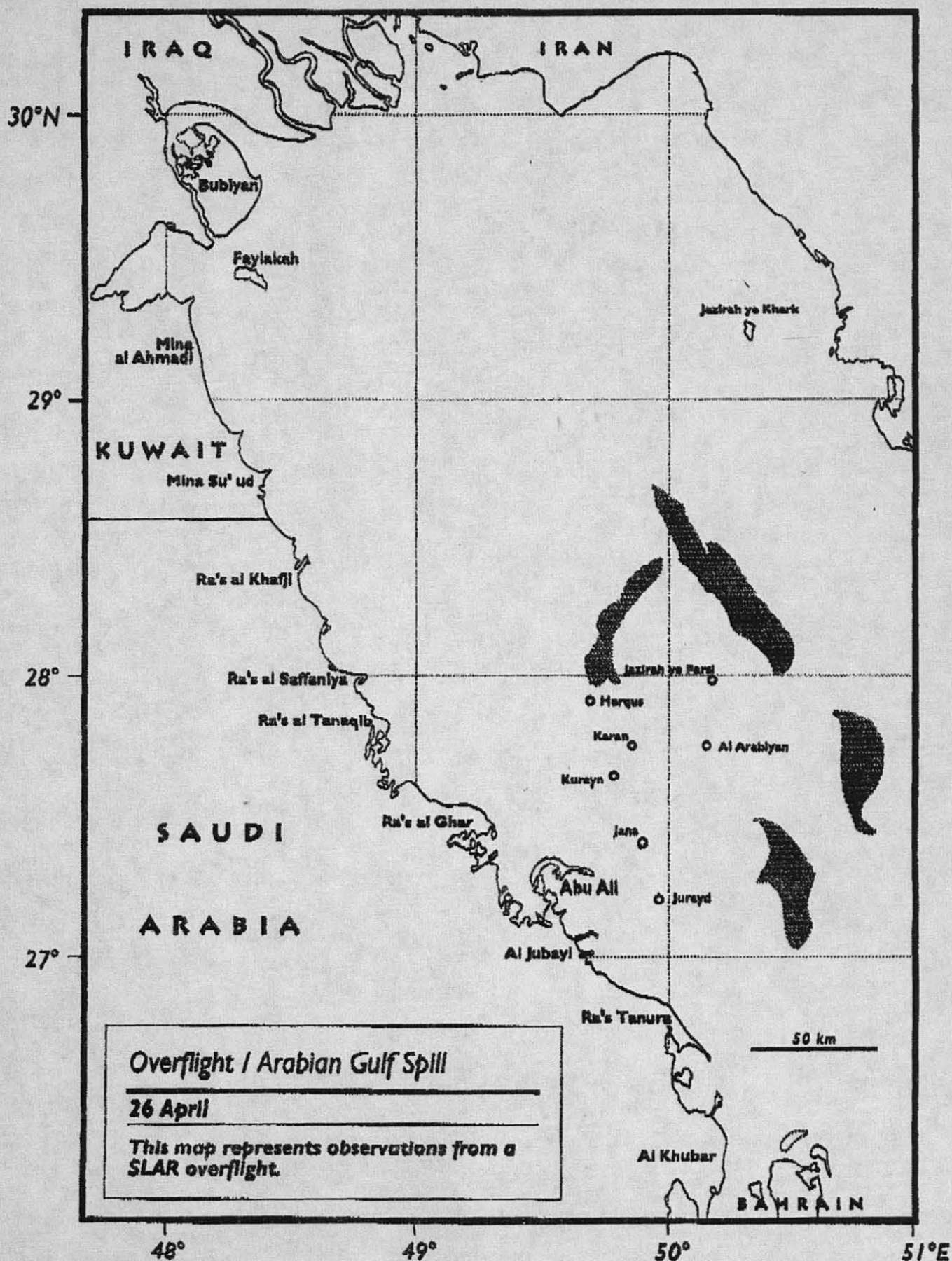
P. On 25 April Crowley Maritime equipment arrived at Musharrabah, which will become their staging area. Crowley expects to be laying boom no later than 4/26.

U N C L A S S I F I E D

APR 21 '91 18:05 HAZMAT

P.4/4





From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 19 Apr 91

To:	Agency	POC	FAX
	White House Situation Room	Richard Porter	202-456-2223
	D.O.E.	Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
	JCS Crisis Action B GEN John Jumper Team		Voice: 703-697-4801 703-693-5487
	USACoE EOC	Gary Campbell/ John Elmore	202-272-0378
	EPA Emerg. Ops Cntr	Jim Makris	202-252-0154
	CG LANTAREA	VADM Thorsen	8-664-3465
	IMO	CDR Pascoe	011-44-071-587-3238
	Canadian Coast Guard	Mr. Tom Ring	613-998-4168
	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached is SITREP #48 for 19 April 1991. The total transmission is eight pages long including this cover sheet. All Persian Gulf Oil Spill Sitreps following this will be once per week.

POC: LCDR Emge FTS/(202) 267-0434.

U.S. Department
of Transportation

United States
Coast Guard



U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 48
19 APR 1991

1. International Interagency Assessment Team (IIAT) Report:

A. Day 91 of spill. Cleanup continues at sites previously identified, however, first phase of shoreline cleanup is ongoing at Gurmah Island with mud flats being flushed by Royal Commission Contractor (OOPS) in conjunction with IMO contractor flushing free floating oil from mangroves.

B. IMO has started project to provide protective booming for two salt marshes that escaped being oiled. The two sites are in Musharrebah back bay and will be protected with boom provided by the German Government and donated to the IMO "Gulf Oil Pollution Disaster Fund." Mr. Tony Preen from (NCWCD) had requested that IMO look at these two areas for booming to protect these unoiled salt marshes. IMO has retained Tanker Cleaning Amsterdam to provide the labor and boats to accomplish the work under agreement with MEPA.

C. 17 April: Saudi Civil Defense overflight of Saudi coastline was conducted with IIAT member onboard. A significant amount of free floating oil remains along the coastline. A large volume of oil was noted in the bays in Tanajib. This free floating oil is coming from monthly high tides and SSW winds. April 20 is the highest tide of the month and more oil is expected to refloat from impacted shorelines.

D. 18 April: Wildlife Commission overflight observed free floating oil coming off shorelines in all areas. The Tanajib area was specifically noted as having a large pool of oil collecting in the southern bays. Although no work is presently being conducted in the area, the planning committee has approved the area for Crowley who is developing the work plan. Overflight also spotted 23 dead dolphins. Cause of death is unknown.

E. 18 April: Planning committee had very productive meeting. The Rapid Shoreline Inspection Program recommended by IIAT is being implemented. Crowley has been given 4 sites to develop work orders. Essentially same process being used here that was used in Alaska for the assessment, approval, and development of work plans.

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F. IIAT made an aerial overpass of Karan Island and observed work in progress, then on to Kuwait to observe the leaks from the Al Ahmadi terminal. There is evidence of oil continuing to leak from damaged piers and piping in the vicinity of the south terminal. The north terminal is showing signs of oil but not as pronounced as at the south terminal. Landed at Kuwait International Airport which is under the operational control of the Navy. The IMO rep discussed the possibility of transportation from military resources for Aramco engineers. It appears that transportation would be available on space available, but would be impossible to prearrange in advance. Next meeting with Aramco will discuss other options to inspect terminal leaks by engineers using ground transportation from Saudi Arabia.

G. Equipment donated by Luxembourg remains tied up by customs at the UAE border. IMO has recommended to the freight forwarder to return shipment to Dubai and air freight to Dhahran, or send via ship to Port of Dammam.

2. Oil Spill Information: (4/18)

A. Manifa: Manifa Bay has received more free floating oil in the harbor. Aramco is using a gate system to collect the incoming oil in their harbor. Cleanup of free floating oil continues. There is still a significant amount of oil remaining to be collected.

B. Dawhat Ad Brice: Cleanup operation continues. 3 GT-185's recovering oil in Brice Bay. Cleanup operation is hampered by tidal changes. Oil at low tide is resting on tidal salt flats where pumps are unable to recover oil. Crowley is using floor squeegees to move oil into pits where oil then can be recovered by pumping systems.

3. Future Plans and Recommendations:

A. IIAT to inspect work at Karan Island, Gurmah Island, and Dawhat Ad Dafi on 20 April.

B. CDR Whipple and MK1 Wyatt, USCG, scheduled to arrive in country 21 April to relieve LCDR Henderson and DC1 Schultz, USCG.

4. Additional Information:

A. All Persian Gulf Oil Spill Sitreps following this will be once per week.

U N C L A S S I F I E D

18 April

Oil Observations:

Uncontrolled sources in Kuwait Waters:

Oil coming from facilities was held against shoreline in a 200-300 m band. New oil and oil with rainbow sheen was observed along with weathered oil.

There is no overflight information from MEPA for today.

Gulf Spill Trajectory Update:

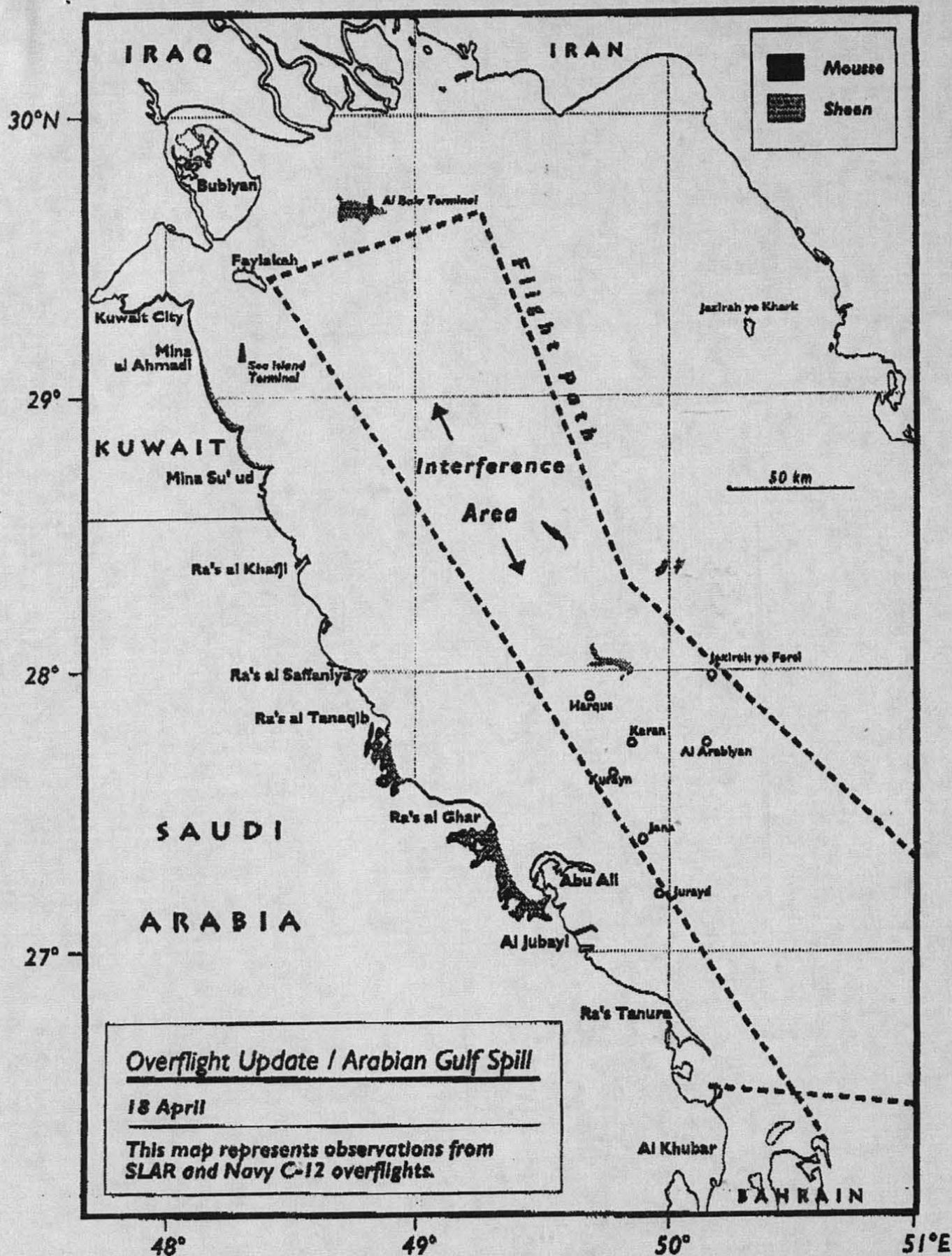
Trajectory forecasts are calculated by GulfSlik II, a model designed by the King Fahd University of Petroleum & Minerals Research Institute in Dhahran,

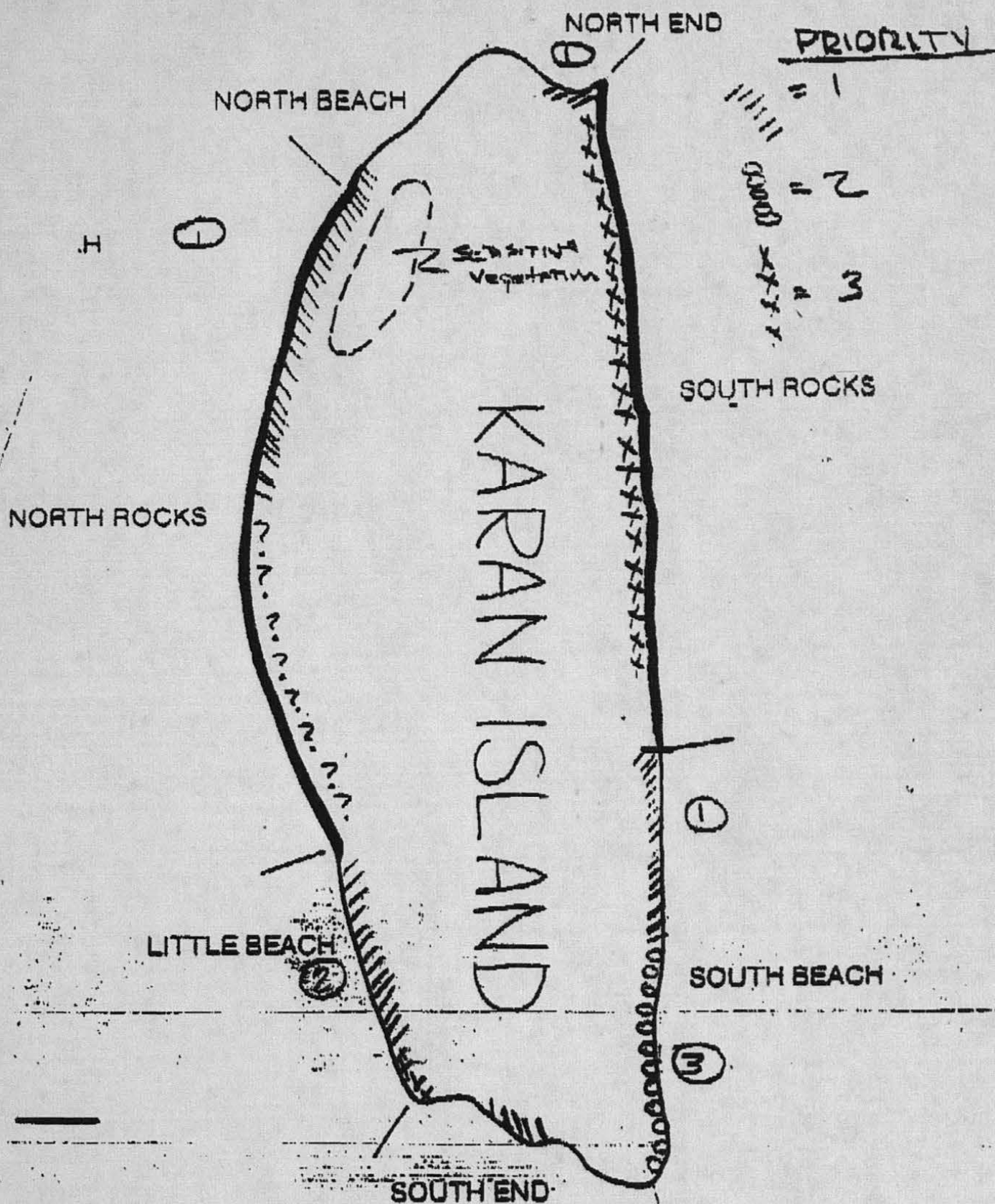
The forecast of 14 April has not been updated.

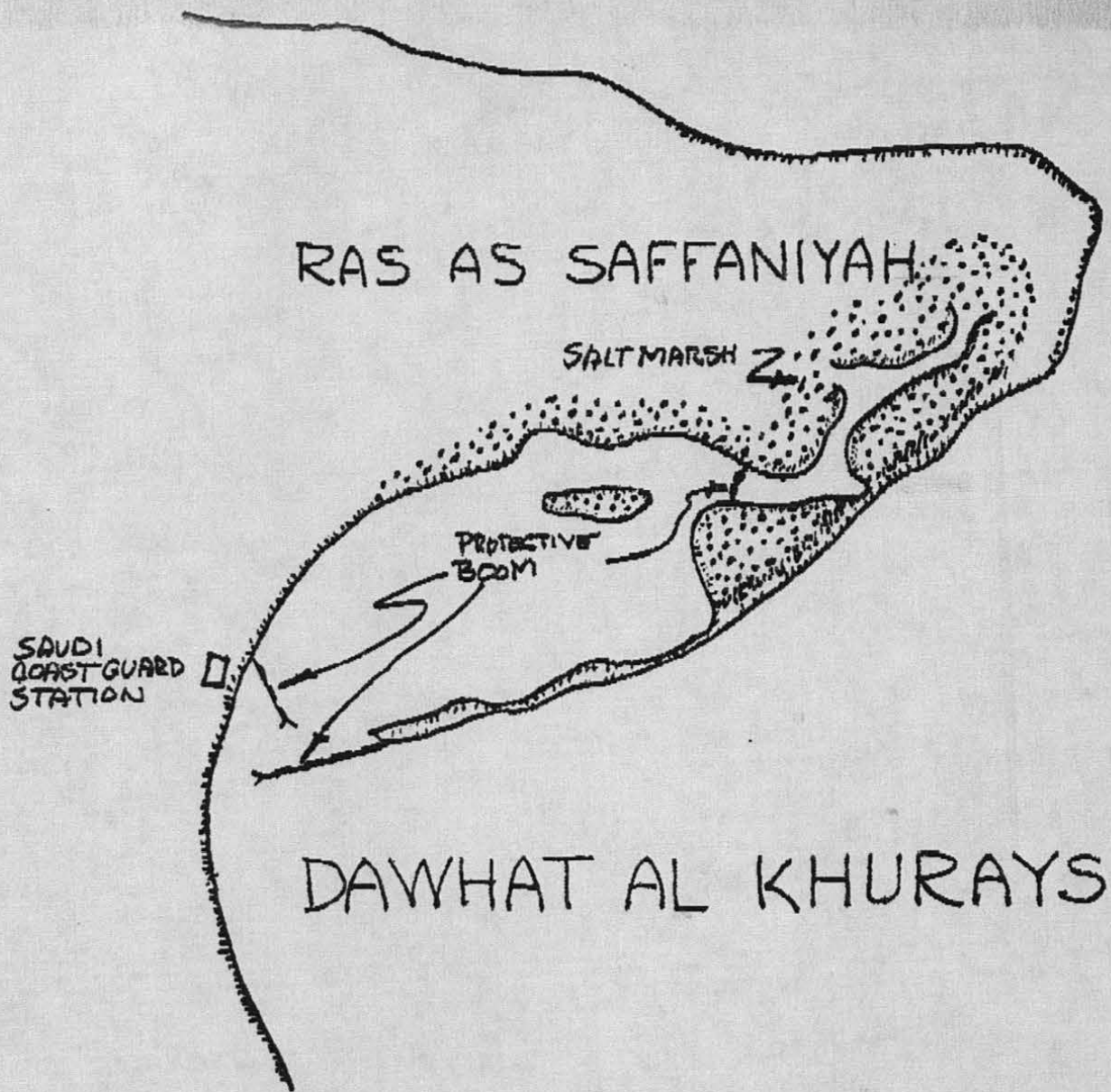
Weather:

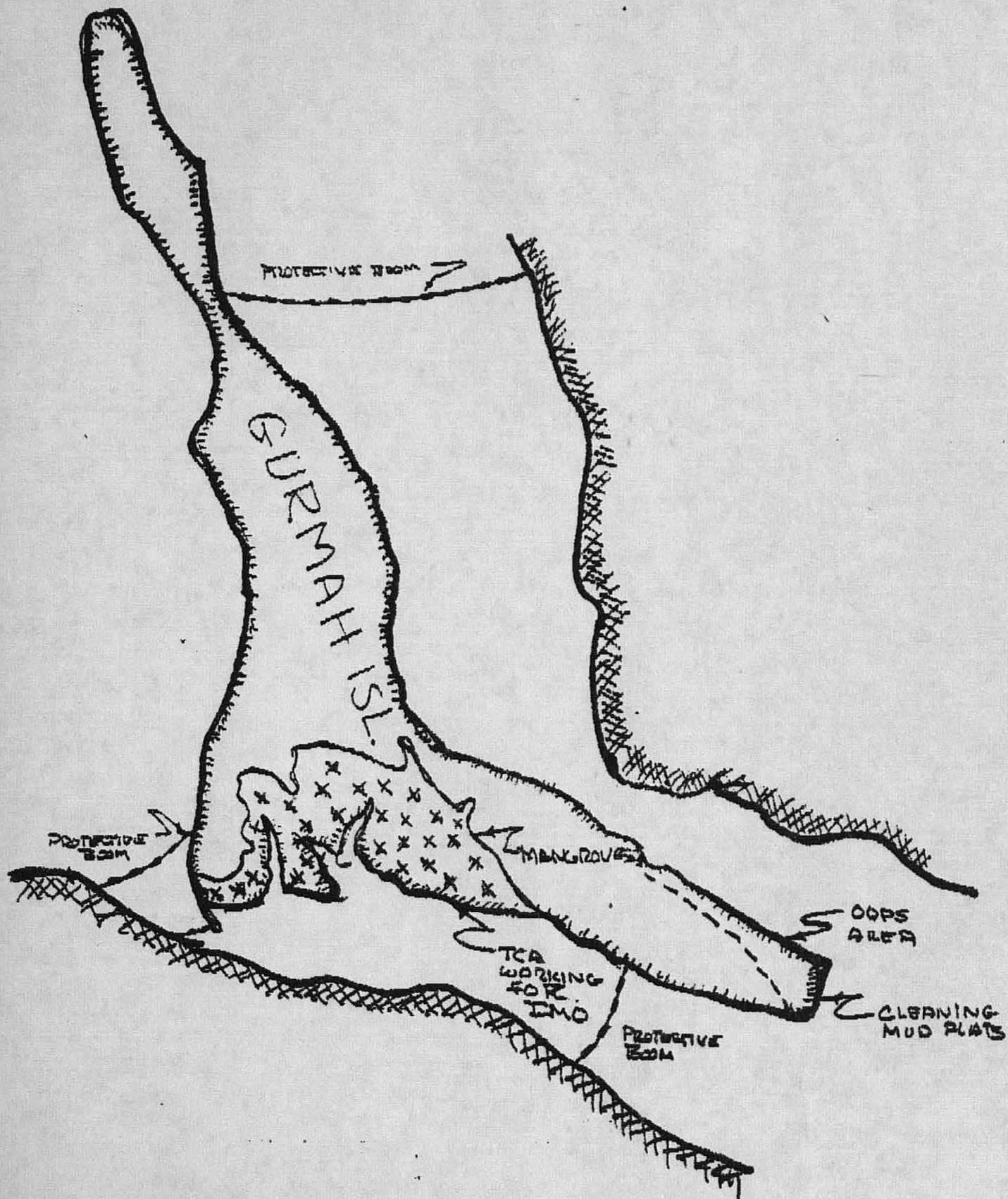
Friday: A trough of low pressure will cross the area, shifting the southeast winds to a northerly direction. Smoke near the ground will continue to blow into northern Kuwait and southeast Iraq until the winds shift and spread the smoke into northeast Saudi Arabia and the Arabian Gulf. Smoke plumes rising above the ground-based temperature inversion will be well mixed by the westerly winds and spread over the northeast coast of Saudi Arabia and the Gulf.

Saturday through Thursday: Winds will remain northerly with a gradual decrease in wind speed through Sunday. Monday through Thursday the pressure gradient will weaken over the area and allow land/sea breeze circulations to dominate the local surface winds. Smoke plumes will spread across northeast Saudi Arabia and the Arabian Gulf Saturday and Sunday, then remain closer to the sources or drift to the south and southeast Monday through Thursday.









IMO/IIAT GURMAH ISLAND, PROJECT #3

From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 10 Apr 91

To:	<u>Agency</u>	<u>POC</u>	<u>FAX</u>
	White House Situation Room	Steve Danzansky <i>Richard Porter</i>	202-456-2223
	D.O.E.	Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
	JCS Crisis Action B Team	GEN John Jumper	703-697-4801 Voice: 703-693-5487
	USACoE EOC	Gary Campbell/ John Elmore	202-272-0378
	EPA Emerg. Ops Cntr	Jim Makris	202-252-0154
	CG LANTAREA	VADM Thorsen	8-664-3465
	IMO	CDR Pascoe	011-44-071-587-3238
	Canadian Coast Guard	Mr. Tom Ring	613-998-4168
	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached is SITREP #44 for 10 April 1991. The total transmission is five pages long.

POC: LCDR Emge FTS/(202) 267-0434.

MAILING ADDRESS:

U.S. Department
of Transportation

United States
Coast Guard



U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 44
10 APR 1991

1. International Interagency Assessment Team (IIAT) Report:

A. Jerry Gaines, U.S. Embassy Riyadh, met with IIAT on 8 April to discuss status of cleanup. Discussed U.S. role which has not changed - advise, assess, recommend, and train Saudi officials in appropriate response strategies and techniques. IMO rep provided update on IMO initiatives and status of international trust fund. The fund has approximately \$3.25 million with donations of \$1.5 million from the Japanese and \$1.75 million from the U.K. with additional donations expected. IMO projects include cleanup of Karan Island, booming at Saffaniya Bay, and flushing of mangroves at Gurmah Island (proposed). NOAA rep provided briefing on status of remaining free floating oil in the gulf. The pooled oil around the damaged/burning oil wells and the leaking sources in Kuwait were emphasized as areas of concern to the team. EPA rep provided an assessment of environmental damage that he has observed which includes extensive damage to mangroves, salt marshes, and mud flats.

B. At 1630 meeting on 8 April, Aramco rep advised that they had sent a telx to the Kuwait Oil Company concerning the facilities that are still leaking.

C. The up-front money required to be paid to Crowley Maritime by their contract has not yet been released. It is still expected to happen soon.

D. The 10 nonpropelled, incline plane skimmers sent by the Japanese are to be placed at King Abdul Aziz naval base, and the Jubail and Dammam port authorities. These 10 skimmers are large and will require a towing vessel to assist them. Several of the smaller Japanese skimmers were tested in Manifa Bay but were unable to skim the viscous oil. These skimmers will be sent to other areas with lighter oil.

E. Conducted a C-12 overflight on 9 April to visually assess shoreline impact and to assess status of sources in Kuwait. Heavy smoke along the coast prevented good visual observations especially around the sources in Kuwait. SLAR overflight of entire northern gulf on 9 April was ineffective due to calm conditions. Another attempt will be made on the 10th. This flight is conducted once a week. Other flights are dedicated to observing the coastline using the 13nm scale on the northern leg and 2nm scale on the southern leg of the mission. Smoke observations are also being recorded during each of the flights.

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PERSIAN GULF OIL SPILL

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10 APR 1991

F. Recommend USF&WS rep be added to team to assist with shoreline assessments and development/followup of work plans. The planning committee is already very active in these areas and once the up front money is paid to Crowley, cleanup activities will increase significantly.

G. The German oil recovery vessel, MELLUM, arrived in Bahrain on 6 April.

U N C L A S S I F I E D

9 April

Oil Observations:

Uncontrolled sources in Kuwait Waters:

Due to calm seas, the SLAR was unable to detect surface oil in the Gulf. Visual observations made with a U.S. Navy C12 were limited due to heavy smoke conditions over the industrial area of Kuwait. However, such observations confirmed that black oil continues to flow from sewers and drainage areas at the foot of the North Pier, and patches of brown and black oil flow from sewers, drainage areas, and pipe facilities around the South Pier of the Mina Al-Ahmadi Terminal.

No MEPA observations are available today, also due to the heavy smoke.

Gulf Spill Trajectory Update:

Trajectory forecasts are calculated by GulfSlik II, a model designed by the King Fahd University of Petroleum & Minerals Research Institute in Dhahran.

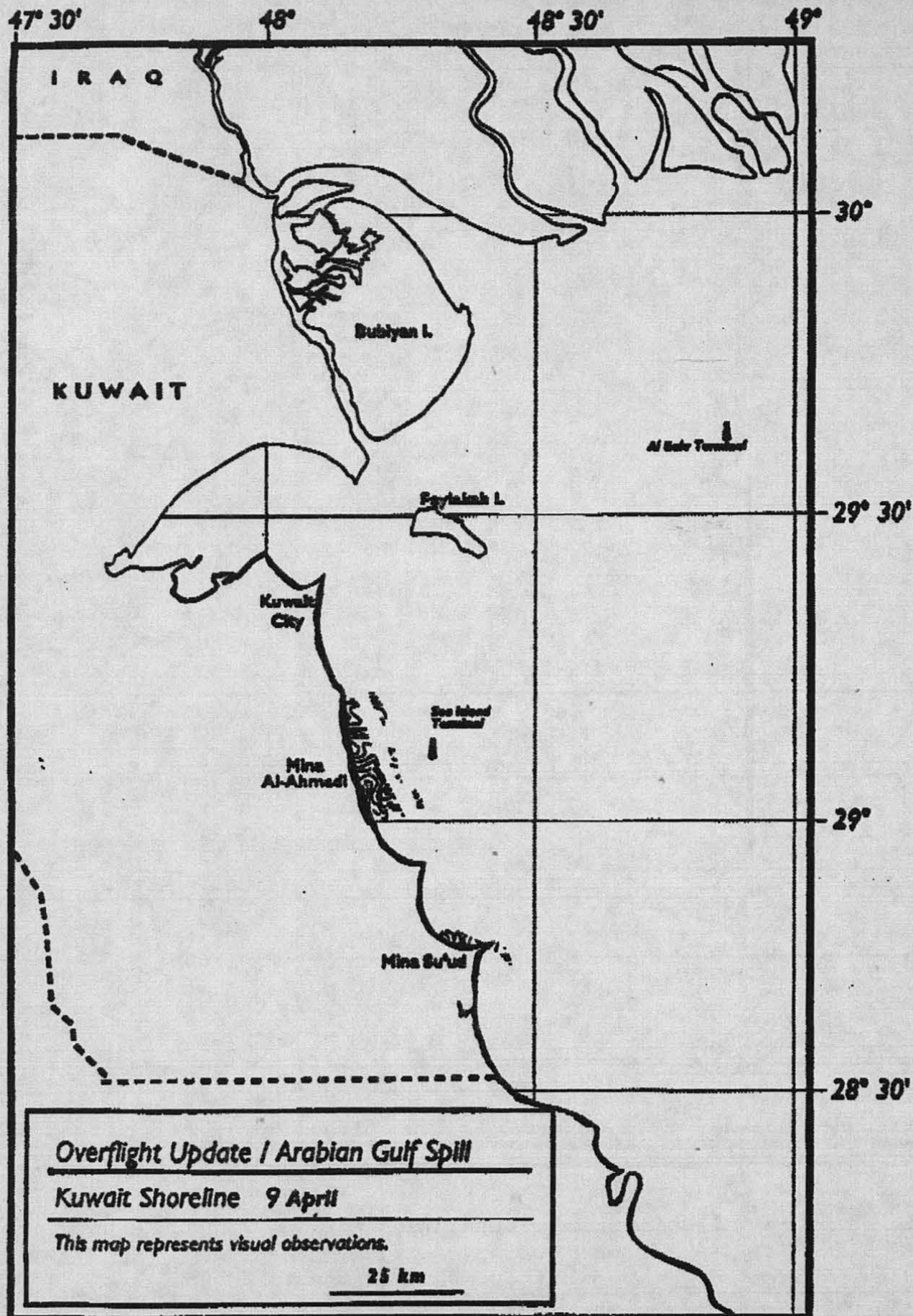
The simulation starts on 7 April. The prevailing wind for April and May is generally WNW. The wind will result in net movement of the spill in a southeasterly direction, almost parallel to the coastline. Coastal impact will occur, especially during high tide.

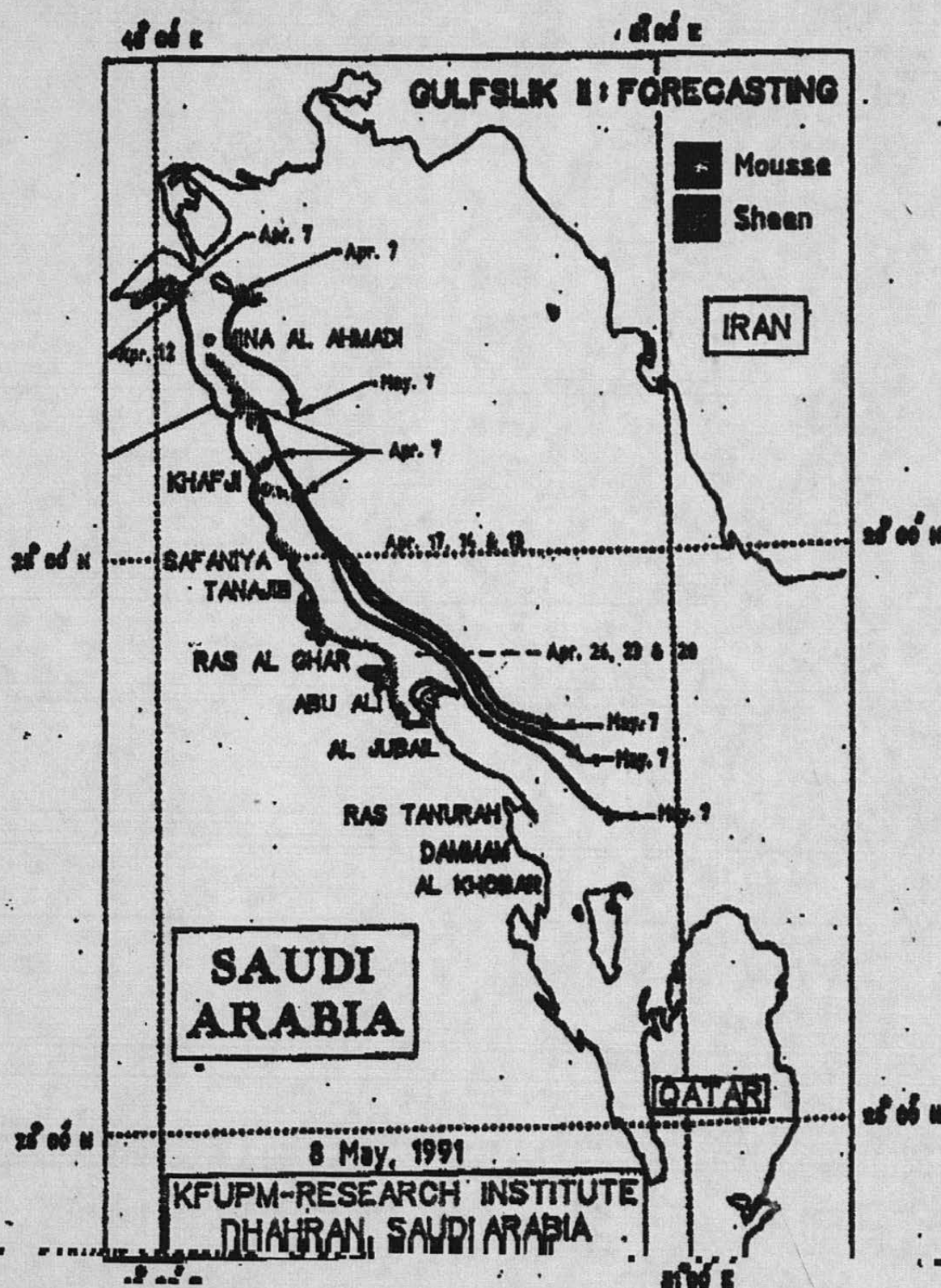
Weather:

Wednesday: A weak cold front will pass through the Gulf area early Wednesday. Southeasterly winds 15 to 25 kts ahead of the front will shift to the northwest behind it.

Thursday through Monday: Weak pressure gradients will allow the thermal low over the Arabian Peninsula to dominate air flow. Land and sea breezes will dictate wind direction.

Tuesday: A weak low pressure system will cross north of the Gulf area causing winds to shift to the southeast.





From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

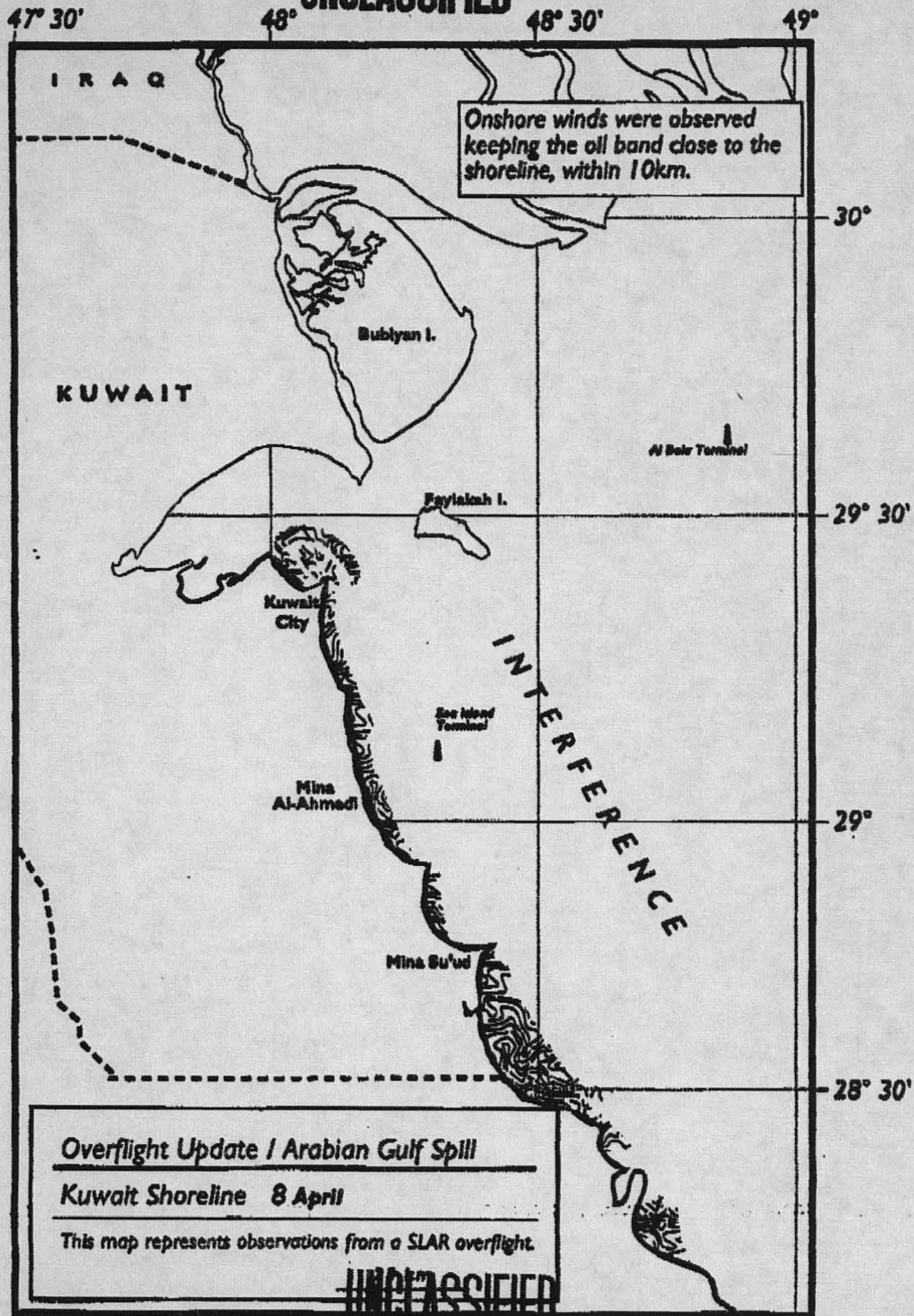
Date: 09 Apr 91

To:	Agency	POC	FAX
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Mr. Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
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	Canadian Coast Guard	Mr. Tom Ring	613-998-4168
	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached are overflight and forecasting projections for 9 April 1991. The transmission is three pages long.

APR 08 '91 20:46 HAZMAT

P.6/7

UNCLASSIFIED

UNCLASSIFIED

48°30'

49°

49°30'

28°30'

Ra's al Khafji

Ra's al Saffaniya

Ra's al Tanajib

Marqab

Karak

Kureyn

28°

27°30'

Jana

SAUDI
ARABIA

Abu Ali

Overflight Update / Arabian Gulf Spill8 April

This map represents observations from MEPA overflights.

27°

UNCLASSIFIED

From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 08 Apr 91

To:	Agency	POC	FAX
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
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	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Page 2 of
Attached is SITREP #43 for 08 April 1991. The total transmission
is ~~three~~ ^{two} pages long.

POC: LCDR Emge FTS/(202) 267-0434.

U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 43
08 APR 1991

E. Detailed survey of Manifa Bay and assessment of ongoing cleanup operations by Aramco to be conducted during next several days by MEPA and IIAT.

F. Jerry Gaines, U.S. Embassy Riyadh, to visit 9 April.

G. IIAT meet with incoming and outgoing AIREYE CO and XO. LCDR Henderson and DC1 Schultz returned with them to Bahrain International Airport, toured facilities, met with AIREYE sensor operators, and flew SLAR sortie. Replacement crews are now in theater and are flying missions along with original crews. Area familiarization for all new crews will be complete early this week. Redeployment of original crews will be complete by the 15th of April. Rotation of aircrews is expected to have no impact on operational tempo. The dedication, professionalism, and cooperation of the AIREYE crew is greatly appreciated.

2. International Efforts:

A. Japanese: 10 incline plane skimmers and 3 transfer pumps arrived in Dhahran. However, the generators to run the transfer pumps have not yet arrived in country. 24 smaller skimmers are being transported to Jubail for further distribution.

B. IMO Coordination Center London has still been unsuccessful in finding a member nation to provide a resource replacement for the Coast Guard SLAR aircraft. The need for SLAR replacement exists but the replacement aircraft does not have to be as sophisticated as the HU25. SLAR mission is now defined as follows; the continuing discharges in Kuwait remain a legitimate concern and therefore should be watched to track the dispersion of the oil and its fate as it moves away from the source. The gulf situation no longer requires full gulf sensing flight on a daily basis. SLAR sensing sorties are now only needed to check hot spots and for the validation of the effect of the continuing discharges. This mission profile can be accomplished with a less sophisticated aircraft flying selected sorties as determined by the situation. Recent visual air observations have provided especially useful information.

U N C L A S S I F I E D

From: CAPT William F. Molt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 08 Apr 91

To:	Agency	POC	FAX
	White House Situation Room	Steve Danzansky	202-456-2223
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U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 43
08 APR 1991

1. International Interagency Assessment Team (IIAT) Report:

A. The primary contractor, Crowley Maritime, has only 14 response personnel on-scene in Saudi Arabia and 5 admin personnel. Until they receive the up front money called for in their contract with MEPA, Crowley will not begin any additional work or order in additional crews and equipment. Presently Crowley is working one small area within the Dawhat Ad Dafi area, and are collecting approximately 1,500 bbls/day. Dr. Tawfiq is in Jeddah attempting to resolve the money problem and is expected back 9 April.

B. IIAT members visited Karan Island on 7 April 1991. The shoreline is low to moderate energy with tide and wind blown waves effecting the shoreline. The west side of the island is heavily coated with tarmats from previous spills and a recoating of oil from the Kuwait spill. The east coast is of rock formation with natural rock pockets. These pockets are coated with oil that is still soft at low tide. The north end is clean while the south end is sand that has been washed by waves and is lightly oiled. Work to be accomplished is to remove the tarmats on the west shore, cover the pockets of soft oil with sand in the rock beach and left to self clean. The dirty sand is to be replaced with clean sand where necessary. Work is to start on the island on 9 April and be finished by 30 April. Alba International from the U.K. was awarded the contract by IMO.

C. Royal Commission cleanup continues as before. Contractor is having a high degree of success in recovering oil using mud cats. The storage pit constructed has also proven to operate efficiently. This pit system uses three pits interconnected with weirs to control the flow of oil/water and allows a natural decanting process.

D. Aramco cleanup in the Manifa area continues as before. Aramco reports that they are collecting approximately 25,000 bbls of oil per day (after applying 70/30% water/oil ratio) using 37 skimmers, 23 vac trucks, and 326 people. This level of activity and recovery rate has not been verified by field visits by MEPA and members of the IIAT.

U N C L A S S I F I E D

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1. International Interagency Assessment Team (IIAT) Report:

A. The primary contractor, Crowley Maritime, has only 14 response personnel on-scene in Saudi Arabia and 5 admin personnel. Until they receive the up front money called for in their contract with MEPA, Crowley will not begin any additional work or order in additional crews and equipment. Presently Crowley is working one small area within the Dawhat Ad Dafi area, and are collecting approximately 1,500 bbls/day. Dr. Tawfiq is in Jeddah attempting to resolve the money problem and is expected back 9 April.

B. IIAT members visited Karan Island on 7 April 1991. The shoreline is low to moderate energy with tide and wind blown waves effecting the shoreline. The west side of the island is heavily coated with tarmats from previous spills and a recoating of oil from the Kuwait spill. The east coast is of rock formation with natural rock pockets. These pockets are coated with oil that is still soft at low tide. The north end is clean while the south end is sand that has been washed by waves and is lightly oiled. Work to be accomplished is to remove the tarmats on the west shore, cover the pockets of soft oil with sand in the rock beach and left to self clean. The dirty sand is to be replaced with clean sand where necessary. Work is to start on the island on 9 April and be finished by 30 April. Alba International from the U.K. was awarded the contract by IMO.

C. Royal Commission cleanup continues as before. Contractor is having a high degree of success in recovering oil using mud cats. The storage pit constructed has also proven to operate efficiently. This pit system uses three pits interconnected with weirs to control the flow of oil/water and allows a natural decanting process.

D. Aramco cleanup in the Manifa area continues as before. Aramco reports that they are collecting approximately 25,000 bbls of oil per day (after applying 70/30% water/oil ratio) using 37 skimmers, 23 vac trucks, and 326 people. This level of activity and recovery rate has not been verified by field visits by MEPA and members of the IIAT.

U N C L A S S I F I E D

From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 05 Apr 91

To:	Agency	POC	FAX
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
	JCS Crisis Action B GEN John Jumper Team		703-697-4801 Voice: 703-693-5487
	USACoE EOC	Gary Campbell/ John Elmore	202-272-0378
	EPA Emerg. Ops Cntr	Jim Makris	202-252-0154
	CG LANTAREA	VADM Thorsen	8-664-3465
	IMO	CDR Pascoe	011-44-071-587-3238
	Canadian Coast Guard	Mr. Tom Ring	613-998-4168
	Dept of the Navy	CAPT Viglienzona, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached is SITREP #42 for 05 April 1991. The total transmission is four pages long.

POC: LCDR Emge FTS/(202) 267-0434.

MAILING ADDRESS:

U.S. Department
of Transportation
United States
Coast Guard



U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 42
05 APR 1991

1. International Interagency Assessment Team (IIAT) Report:

A. Mr. John Ostergaard (IMO), Chief IIAT, is being relieved by Mr. Roy Nichols on 5 April. Mr. Ostergaard has been a tremendous asset to the team for the past month and his efforts are greatly appreciated. The IMO funded contract for the cleaning of Karan Island has been awarded to ALBA International Ltd., and work is to commence on the island on or about 6 Apr with a completion date of 25 Apr. The work schedule on the island is controlled by the return of the sea turtles which migrate to this particular island each year. A second project has been undertaken by the IIAT to provide protective booming at Saffaniyah salt marsh. Saffaniyah is the only remaining salt marsh on the northeast coast of Saudi Arabia, and will be very important in the reestablishment of damaged salt marshes. IIAT members and IMO contractors are scheduled to visit Karan Island 7 April to inspect work areas.

B. Cleanup Efforts:

1. Desal and industrial plant protection continues under Aramco, SWCC, and the Royal Commission. These operations are to continue to prevent oil from entering the suction intakes of these priority areas.

2. Royal Commission cleanup operation continues: Contractors continue to recover oil in the Dawhat Ad Dafi Marina. Primary work is recovering pooled oil from the marina using three mud cats, oil recovery rates are approximately 200 metric tons/hr with a 50%/50% oil/water mix.

3. Aramco continues to work in Manifa Harbor. Cleanup is progressing slowly with only two skimmers (Framo, GT185) and 14 vac trucks working. USIAT submitted a field report to operations recommending that the recovery of oil could be enhanced by adding more skimmers and discharging the oil into pits, then using vac truck to move skimmed oil to primary storage pits. Aramco still refuses to allow any other contractors to work this area.

4. Crowley has not commenced cleanup operations due to contractual problems. Contract requires a lump sum, up front payment prior to work commencing. Although this payment has not been made it is expected to be resolved shortly.

U N C L A S S I F I E D

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PERSIAN GULF OIL SPILL
SITREP 42
05 APR 1991

C. On 4 April, Dr. Tawfiq appointed Mr. Abuleif from MEPA as the new chairman to the planning committee. Once again, we are looking at a reorganization and a redefining of roles and responsibilities.

D. On 4 April, LCDR Henderson, USCG, visited the Wildlife Rehabilitation Center in Jubail. To date, 1158 birds (14 species) have been delivered to the center. No statistics regarding mortality rates were available.

E. Prince Fahd Bin Abdullah, Deputy Minister of Defense and Aviation, addressed the daily 1630 meeting on 3 April and made the following points:

1. Thanked everyone for their assistance,
2. Stated that this cleanup is an international matter that needs the attention of the world,
3. Stressed that the lessons learned from this spill should be used as a teaching tool,
4. He asked for understanding of Saudi situation in that they have spent \$41 Billion on the war effort, continued to pump 8 million barrels/day of oil to help keep the world economy stable, spent 1/2 Riyals already on the spill, and have recovered 2 times the total amount spilled on the EXXON VALDEZ.

F. CAPT Luchun, USCG, was unable to depart as scheduled on a.m. flight 4 April due to Visa difficulties. Having entered KSA under military orders via Bahrain, no entry Visa was ever registered in the passport. Saudi local immigration official would not accept military ID and orders as exit Visa as had been the practice.

G. Mr. Jeff Hary, USDOE rep, departed team on 4/4/91.

2. Oil Spill Information (4/4)

A. Overflight:

U N C L A S S I F I E D

U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 42
05 APR 1991

1. Sheen and tarballs in Saudi Arabia, Bahrain, and Qatar waters: There has been no change in the general presence of sheen and tarballs in the larger Gulf area.

2. Uncontrolled sources in Kuwaiti Waters: Aramco reported oil leaking from the center of the Sea Island Terminal. The SLAR image showed that the oil band has continued to move onshore by strong southeast winds. This band is now less than 5km wide. Ribbons of black and brown oil are expected to impact the Kuwaiti shoreline, especially during the high tide. No reports of shoreline oiling have been received from Kuwait.

B. Gulf Spill Trajectory Update:

1. The long term trajectory forecast calculated by GulfSlik II, the model designed by the King Fahd University of Petroleum and Minerals Research Institute in Dhahran, extends through April. 30 March oil observations and weather update thus remain the same.

2. Based on average wind data for the Gulf area in April, the model projects that the net movement of the spill will be in a southeasterly direction, roughly paralleling the coastline. Coastal impacts are expected during high tides.

C. Weather:

1. Friday through Sunday: Weak northerly pressure gradient will allow land/sea breezes to occur.

2. Monday through Thursday: A low will pass north of the Gulf area into the eastern Black Sea causing the winds to come from the southeast and increase up to 14 to 19 kts. A trough associated with low will cross the area Wednesday, changing the winds to the northwest.

U N C L A S S I F I E D

From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 06 Apr 91

To:	Agency	POC	FAX
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Mr. Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
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	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached are overflight and forecasting for 6 April 1991. The transmission is five pages long.

6 April

Oil Observations:

Uncontrolled sources in Kuwait Waters:

SLAR imagery showed oil moving off the Kuwait coastline along the shore to the south, and oil coming from the Sea Island Terminal moving in a southerly direction.

Gulf Spill Trajectory Update:

Trajectory forecasts are calculated by GulfSlik II, a model designed by the King Fahd University of Petroleum & Minerals Research Institute in Dhahran.

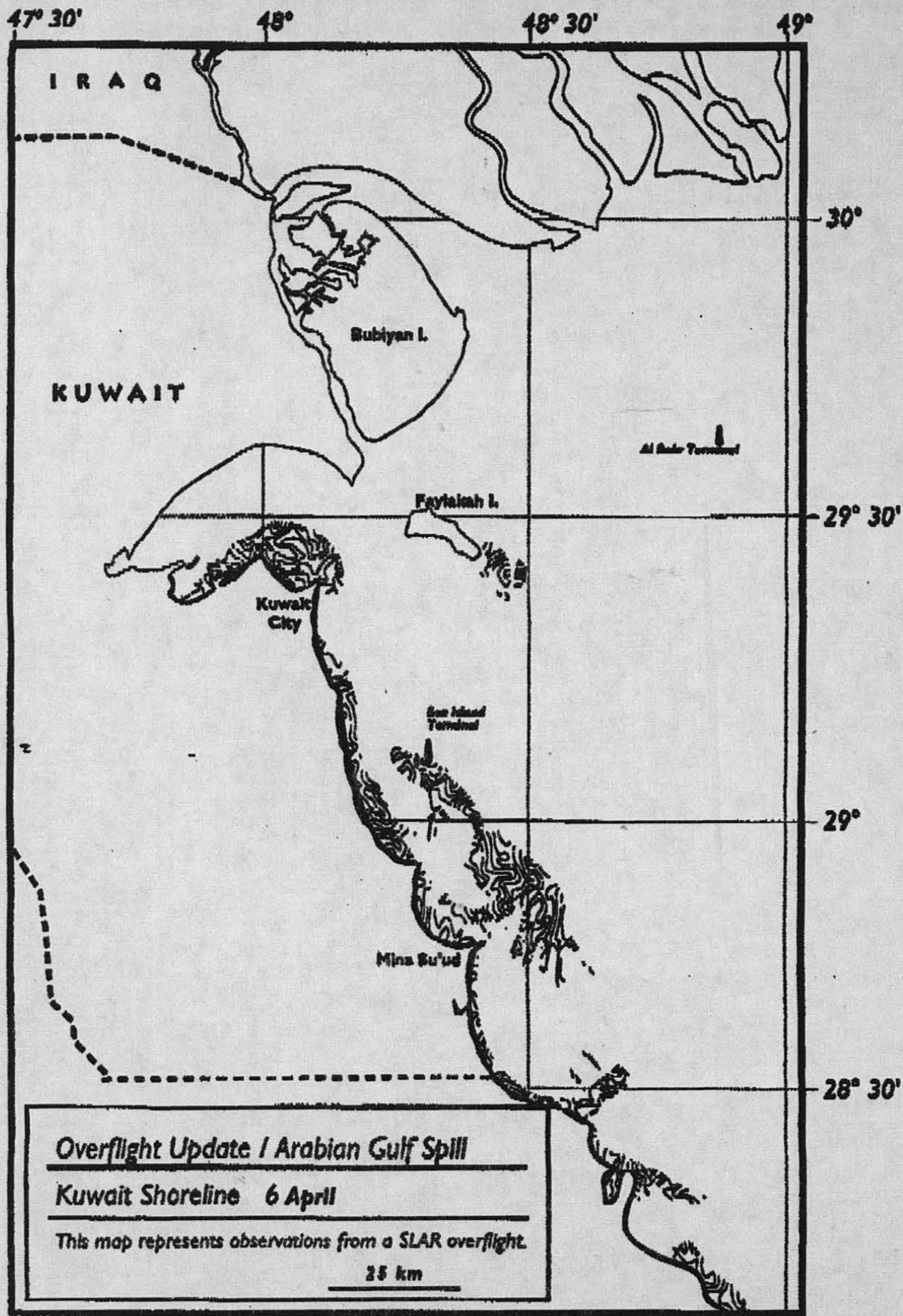
See accompanying sheet and maps for trajectory updates.

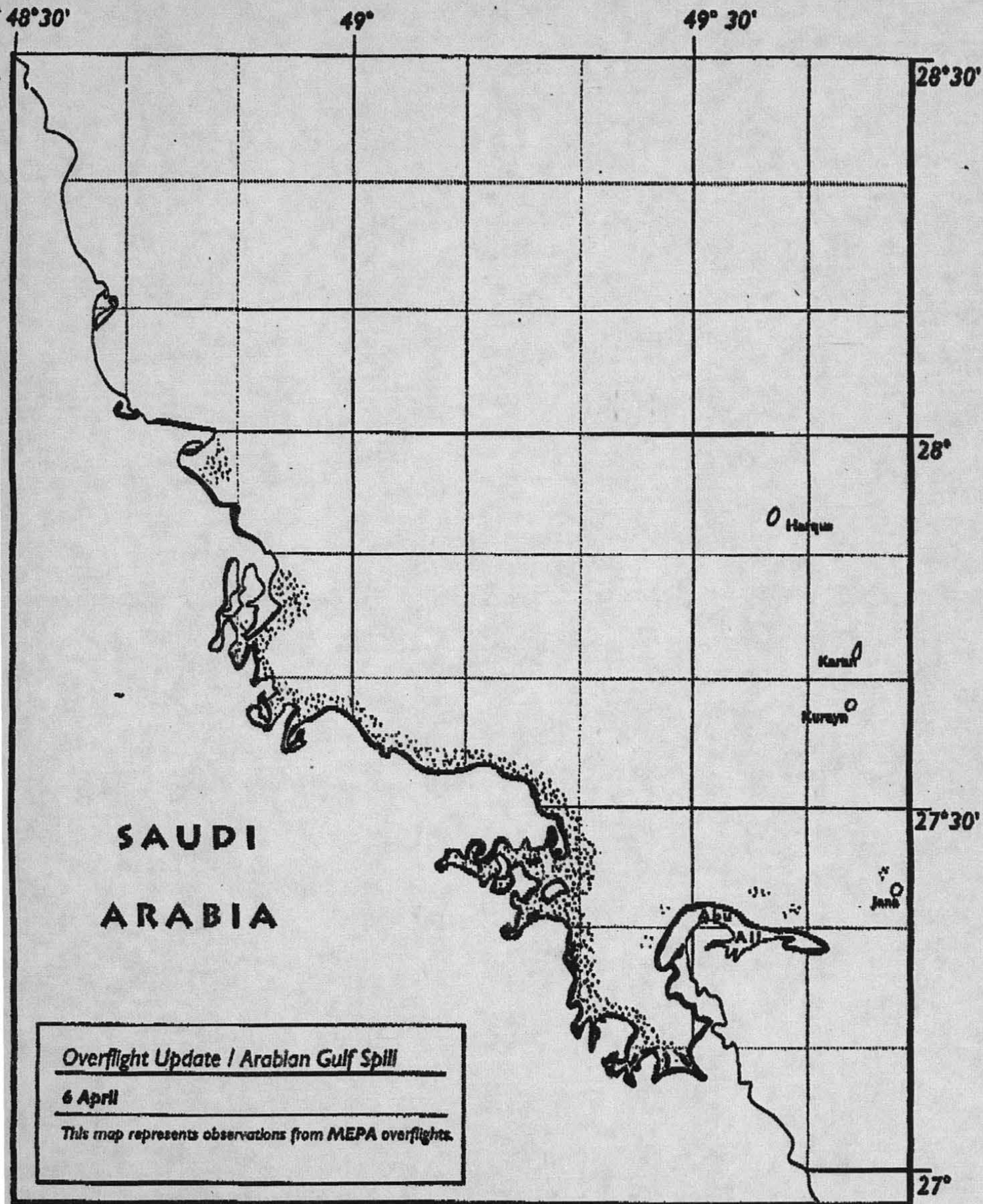
Weather:

Sunday through Monday morning: Weak pressure gradients and land/sea breezes will dominate the weather pattern. Daytime winds will be 10 to 15 kts; nighttime winds will be 6 to 12 kts. The thermal low over the Arabian Peninsula will be the predominant feature.

Monday afternoon through Wednesday morning: Winds will become southeasterly and increase 15 to 23 kts as a low pressure system moves from the Mediterranean into the eastern Black Sea and its associated cold front moves through the Gulf area late Tuesday or early Wednesday. Winds will return to a northerly direction 15 to 20 kts late Wednesday morning behind the front.

Wednesday afternoon through Saturday: A return to the weak pressure gradients and dominance of the Arabian thermal low. Land/sea breezes will again govern the wind flow.





Ministry of Higher Education

King Fahd University of Petroleum & Minerals

RESEARCH INSTITUTE



وزارة التعليم العالي

جامعة الملك فهد للبترول والمعادن

معهد البحوث

TRAJECTORY OF THE GULF SLICK USING GULFSLIK II

GULFSLIK II : STRATEGIC MODE

GULFSLIK II IS USED IN A STRATEGIC MODE TO PREDICT THE TRAJECTORY OF PATCHES OF SHEEN SITED BY THE US COAST GUARD IN KUWAIT WATERS. WIND DATA USED IS THE AVERAGE FOR THE AREA IN APRIL.

THE SIMULATION STARTS ON APRIL 02. THE WIND SSE OVER THE PERIOD 2-6 APRIL. HOWEVER, THE PREVAILING WIND IN APRIL IS GENERALLY WNW. THE WIND WILL RESULT IN NET MOVEMENT OF THE SPILL IN A NORTHWESTERLY THEN SOUTHEASTERLY DIRECTION ALMOST PARALLEL TO THE COASTLINE. COASTAL IMPACT WILL OCCUR ESPECIALLY DURING HIGH TIDE.

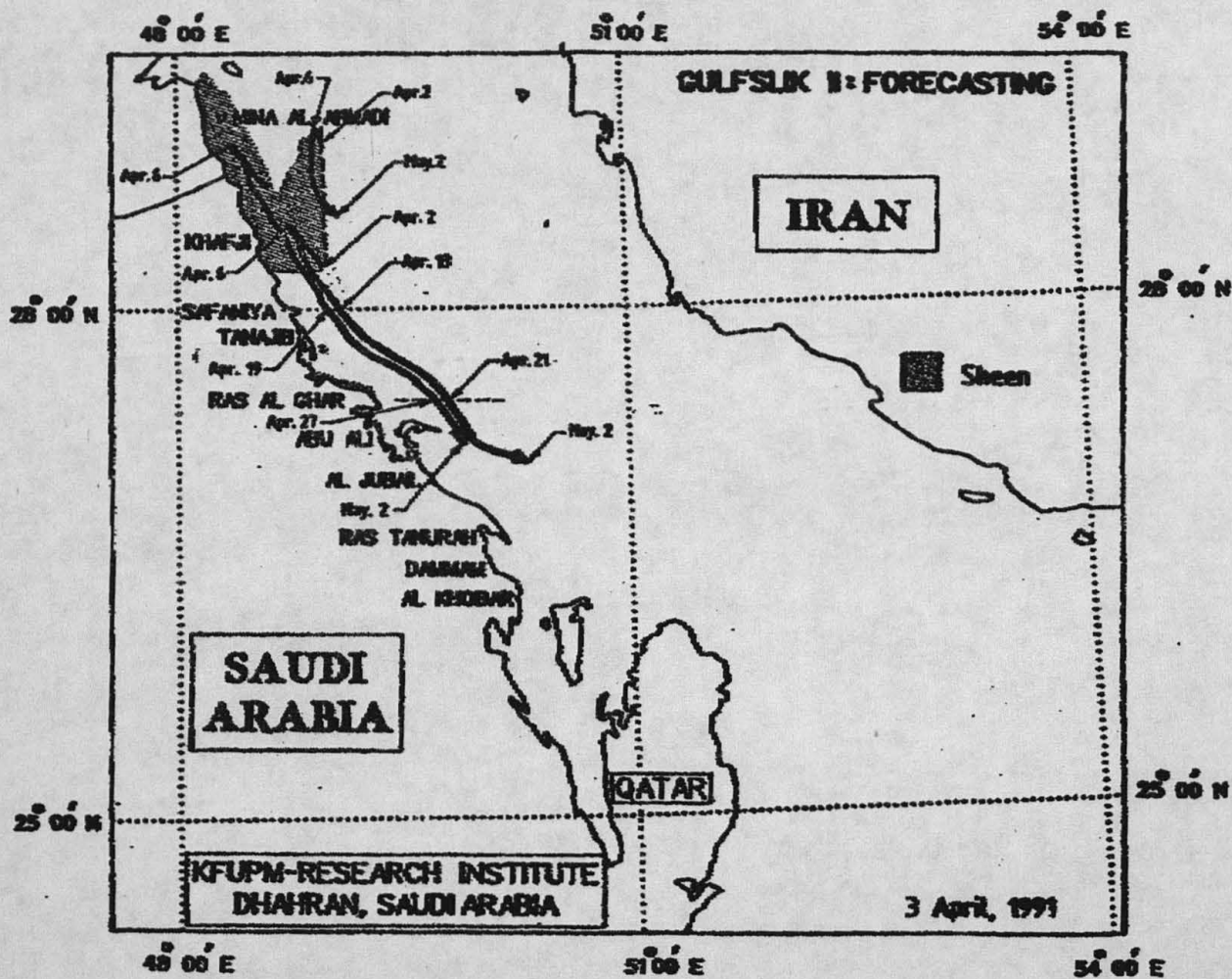
GULFSLIK II : TACTICAL MODE

GULF SLIK II IS USED IN A TACTICAL MODEL TO PREDICT THE TRAJECTORY OF PATCHES OF SHEEN SITED BY MEPA IN SAUDI COASTAL WATERS.

ACTUAL WIND DATA FOR 2-3 APRIL AND FORECASTED DATA FOR 4-10 APRIL FROM NOAA(USA) WERE USED IN THE MODEL.

THE SIMULATION RESULTS INDICATE A NORTHWESTERLY MOVEMENT TILL APRIL 6 WHERE THE WIND IS FORECASTED TO CHANGE TO NW. THE NET MOVEMENT OF OIL APRIL 6-10 WILL BE IN A SOUTHEASTERLY DIRECTION ALMOST PARALLEL TO THE COASTLINE. THUS OVER THE SIMULATION PERIOD THE NET MOVEMENT IS SMALL.

KFUPM/RI-DHAHRAN



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 11:00 PM

EMERGENCY OPERATIONS CENTER



U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460
Mail Stop OS-120 / Room NEML C310
(202) 245-3850
Fax No. (202) 252-0164

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(202) 245-3850

Special Message

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QUICKLY. THANKS.

Fax

Dr. Ken Bernard	HHS	301-443-4549
Erik Molby	NSC	395-3380
Steve Danzansky	White House	202-456-2223
Dick Smith	DOS	647-0217

KUWAIT OIL FIRES - INTERAGENCY INTERIM REPORT**SUMMARY**

More than 500 oil well, storage tank and refinery, and facility fires are currently raging in Kuwait and each day produce an enormous amount of smoke and other pollutants. The quantity and character of the smoke plumes are not yet certain, and the fires are expected to continue for some period. The fires originate in seven oil fields, located both north and south of Kuwait City, with the majority centered in the Al Burgan oil field south of the Kuwait City airport. The fires may represent one of the most extraordinary manmade environmental disasters in recorded history.

In response to this situation, an Interagency Air Assessment Team consisting of representatives from the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the Department of Health and Human Services was formed and deployed to the Persian Gulf area. In country, this team was supplemented by representatives of the United States Coast Guard, the Department of Defense, and the Department of Energy.

The specific mission of the team was to assess the conditions through air sampling and monitoring in oil fields and other areas to determine the effect on public health; to review the health infrastructure; to determine the capability of the region to deal with the health threat through air monitoring and appropriate corrective action; to provide technical assistance; and to consider appropriate follow-up action.

Meteorological conditions over the past two months have tended to transport the smoke plume toward the southeast, with periodic excursions toward the northeast. March through July are relatively windy months; there are normally 30 days of very strong winds from the northwest in this period, which produce sandstorms and rapidly ventilate the smoke. From August to October, the incidence of strong winds should drop sharply. The plume is generally below about 12,000 feet. As the summer progresses, it is possible that the height of the plume will increase and that it will then be evident to greater distances.

Emissions from oil fires may have the potential of causing health effects of both an acute and chronic nature, although there is considerable uncertainty as to the extent of the threat. Chemicals such as sulfur dioxide and hydrogen sulfide as well as carbon monoxide and polycyclic aromatic hydrocarbons are often found along with particulate matter in oil fires. While only a limited assessment is possible at this time, the Team did not detect such chemicals in any significant quantity; also, preliminary analysis of the substantial amount of particulate matter did not reveal any chemicals at levels of concern. Additional testing is needed to better define if other toxic materials may be associated with the high levels of particulates found.

The host nation governments also provided the Team with an abundance of preexisting air monitoring information covering the past several years in Saudi Arabia, Kuwait, and Bahrain. These data provide a useful baseline on limited parameters for comparing the conditions that exist and may evolve during the next several months. The Team concurred with the Saudi Government's view that the considerable Saudi public and private sector competence in air monitoring would need to be supplemented with support and technical assistance. This situation is even more acute in Kuwait City due to the lack of power and to the disruption of the governmental and scientific infrastructure. The Team considered it of critical importance that additional technical assistance be provided to the countries.

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TEAM'S ACTIVITIES AND FINDINGS

With the assistance of the Saudi and Kuwaiti Governments, the U.S. Interagency Air Assessment Team has been conducting a reconnaissance survey of the fire plumes and their effects in Kuwait and Saudi Arabia since March 10, 1991. The primary objective of the Team was to obtain preliminary, short-term data on the emissions from the smoke emanating from the oil well fires at a variety of locations, in order to:

1. Determine if there is an acute health threat associated with the Hydrogen Sulfide (H_2S) and Sulfur Dioxide (SO_2) and particulates, three pollutants that might be emitted from burning oil wells;
2. Identify and quantify the gaseous and particulate byproducts being produced from the burning oil wells; and
3. Determine if the materials associated with these fires are affecting areas where American citizens are located.
4. Assess the potential extent of the health effects related to the emissions from the fires and the status of the Kuwaiti and Saudi health infrastructure.

Based on these objectives, limited, real-time data was obtained directly from the Kuwait oil fields, as well as from Kuwait and Saudi Arabia locations where embassy officials, troops, and citizens work and reside. Additionally, the Team conducted a number of interviews with health officials to evaluate the extent of acute respiratory problems related to smoke exposure. While only a cursory assessment is possible at this point, some data obtained by the team were encouraging. The preliminary findings are as follows:

1. Limited sampling did not reveal the existence of high concentrations of sulfur dioxide or hydrogen sulfide near the burning wells or in population areas in the path of the oil well emissions;
2. High levels of particulate were found in the air;
3. The results of the current monitoring findings and health interviews with medical personnel in the affected areas suggest that at the present time susceptible subpopulations, such as individuals with asthma and chronic obstructive lung disease, may experience exacerbation of their symptoms. Special health concerns, warnings, advisories, and precautions are clearly warranted for these individuals. This situation does not appear to be life threatening under current exposure conditions but, if meteorological conditions change, i.e., poor air mixing or plume touchdown, there could be adverse health effects for these susceptible individuals; and,
4. The long-term effects on health are not readily ascertainable at this time due to insufficient data on the populations exposed, the composition of the smoke plume, the impact of oil pools, and long-term meteorological patterns. The Kuwaiti and Saudi health communities have historically focused on communicable diseases from a public health standpoint and have limited capabilities for responding to environmental health issues. However, both the Kuwaiti and Saudi health communities have expressed great interest in obtaining training and support from the US medical community that can be

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continued by themselves in future years. Aggravating the problem is the severe damage done to the scientific infrastructure of Kuwait thus limiting the current in-country analytic capabilities. Any response by the US would have to include both training and equipment.

NEXT STEPS

The Team has stressed, however, that their observations represent only a preliminary assessment and that considerable follow-up will be necessary to evaluate definitively the nature and magnitude of the human health, ecological, and atmospheric effects of the oil fires. Such follow-up activities will need to be carefully coordinated with the governments in the region as well as with other governments and international organizations, such as WMO, WHO, and UNEP, which are seeking to assist in evaluating the situation.

The local populations are being exposed to an increased health risk, the magnitude of which cannot be estimated with any degree of certainty without further measurements and surveys. The extent to which conditions may worsen needs to be understood and a forecast capability developed. Without such measurements and assessment, and development of a predictive capability, the regional population remains exposed to an uncertain risk, and reconstruction of the area may be impeded. Moreover, without such input, an accurate and defensible quantification of environmental effects will not be possible.

In addition to providing direct answers to questions regarding the effects of the smoke plumes on the atmospheric environment, intensive studies of the plumes will accelerate progress in understanding manmade effects on regional and global air quality, meteorology, and climate. Because the expected changes in air chemistry, solar radiation, and cloud microstructure are so large, observations of these processes could circumvent the need for many years of study directed at much lesser phenomena.

Closely coordinated programs with the area governments need to be developed in air monitoring, human health surveillance, and forecasting capabilities.

From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 03 Apr 91

To:	<u>Agency</u>	<u>POC</u>	<u>FAX</u>
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
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	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached is SITREP #41 for 03 April 1991. The total transmission is five pages long.

POC: LCDR Emge FTS/(202) 267-0434.

MAILING ADDRESS:

U.S. Department
of Transportation

United States
Coast Guard



U N C L A S S I F I E D

PERSIAN GULF OIL SPILL

SITREP 41

03 APR 1991

1. International Interagency Assessment Team (IIAT) Report:

A. Work Sites: DESAL and Industrial Plant Protection continues under ARAMCO, SWCC, and Royal Commission. There is little or no oil retrieval ops needed at these sites. Crowley (prime contractor) and Martec (subcontractor) are preparing recovery sites at Bryce Inlet and Cove and are conducting assessment of coastline south to Musallamiyah Bay for identification of suitable recovery sites. ARAMCO is working sites in Manifa Bay, Ras Al Azwah, and Dawat Ad Dafi. Obrien's Oil Pollution Services (US contractor under separate contract) continues to work several locations within the Royal Commission area using floating skimmers, vac trucks and small skimming vessel. Dutch team preparing equipment to flush Gurman Island. Cleanup continues at 2 other sites on south side of Dawat Ad Dafi and Abu Ali.

B. Recovery Ops: Recovery Ops to date has reportedly resulted in over 900K bbls of oil/water removed.

C. Ops Management, planning committee continues to play a significant role in helping Bechtel to bound: (a) response aspects of operations as prime management contractor and, (b) relationship to Crowley. Bechtel has relieved IIAT as chairman and secretary of planning committee. Bechtel now coming up to speed and will play significant role as "conscience" to MEPA. Anticipate IIAT's role as facilitator to lessen now that Bechtel's role to MEPA has been defined in part as an agent role. IIAT has played role in assisting Bechtel in establishing management organization that fits the preexisting MEPA/ARAMCO contract relationship. Overall scheme is becoming less complicated and more efficient. Problems still exist on how MEPA will use government to government donated equipment and how it will be integrated into operations in respect to contractor's equipment. This will require continuous negotiation and policy discussions within MEPA to avoid any diplomatic backlash.

D. IIAT Actions taken:

1. 1 Apr - USIAT provided 3 U.S. Consulate personnel from Dhahran with detailed tour of cleanup and shoreline impact between Abu Ali and Manifa Bay.

2. 1 Apr - IIAT met with Dr. Tawfiq concerning bioremediation. KSA continues with very conservative approach. Use of bioremediation not expected anytime in near future.

U N C L A S S I F I E D

U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 41
03 APR 1991

3. 2 Apr - IIAT members Henderson (USCG), Schultz (USCG), Ott (NOAA), and Lipscombe (AUS) conducted a helo overflight of Kuwaiti coastline with emphasis on sources from industrial port areas. Leakage into water noted at Mina Al Ahmadi south pier, storm drains and gravity sewers at Mina Al Ahmadi tank farm, and a storm drain near the north pier. Bands of oil, heavy sheen, and tarballs were noted between Kuwait City and Mina Su'ud extending approximately 25K offshore. An ARAMCO rep aboard the flight estimates between 1,500 and 6,000 bbls./day may be leaking from these sources. IIAT members could not quantify the amount of oil being discharged by these sources due to the volume of old and new oil in the area. Pooled oil as a result of oil well fires does not appear to be a threat to the gulf (approx 4NM away) in the near term; however, it does represent a potential source. Dr. Tawfiq and KFUPM officials have been advised. This is being handled as a government to government issue.

4. 2 Apr - USIAT, Ostergard (IMO) held informal meeting with Economic Officer, U.S. Consulate Staff, Dhahran to discuss spill recovery ops and related subjects.

5. 3 Apr - CAPT Luchun (USCG) met with Mr. D'Aloisio, U.S. Consulate Commercial Officer to discuss contractor proposal matters. He requested that any contractor contact relating to proposal offerings and inquiries for Kuwait Ops not be referred to him. Referrals should be made to:

Kuwait Coordination and Follow Up Center
1510 H Street NW
Washington, DC
(202) 508-0250 or 0251
FAX: 508-0280

All KSA Contractor inquiries should be referred to Mr. Roth of Crowley at MEPA office. Mailing addresses are:

a. Crowley Maritime
Attn: Mr. Roth
c/o MEPA
P.O. Box 117
Dhahran Airport 31932
Dhahran KSA
Phone: 966-3-857-1428/0876/6260
fax: 966-3-857-5304/6752

DHL address: Airport road opposite Safco Plant

U N C L A S S I F I E D

U N C L A S S I F I E D

PERSIAN GULF OIL SPILL
SITREP 41
03 APR 1991

b. Crowley Maritime Corp.
Pacific Division
P.O. Box 2287
Seattle, WA 98111
Ph: (206) 443-8100
fax: (206) 443-8072

E. CAPT Luchun, USCG, scheduled to depart for USA late Wed (4/3) evening.

2. Oil Spill Information: 4/2

A. Overflight Information:

1. Sheen and tarballs in Saudi Arabia, Bahrain, and Qatar waters: There has been no change in the general presence of sheen and tarballs in the larger Gulf area.

2. Sources in Kuwaiti Waters: Helicopter observations were conducted in the industrialized port areas of Kuwait with a facility expert from ARAMCO. An estimated 3,000 barrels of oil per day (1,500 to 6,000 bbl/day) enter the Persian Gulf from all uncontained sources -- a pipe rack at Mina Al Ahmadi tank farms; and storm drains and gravity sewers at the Mina Al Ahmadi tank farms; and storm drains near the north pier. This estimate is consistent with the volumes of rainbow colored sheen near the northern boundary, and the weathered gray sheen, mousse and heavy sheen.

3. A large band of oil along the shore between Kuwait City and Mina Su'ud extends 25 km from the shore. Roughly 5% of the area within this band consists as bands of black and brown oil from 10m to 100m wide were mixed with streamers of old tarballs, mousse, and heavy sheen.

B. Gulf Spill Trajectory Update:

1. The long term trajectory forecast calculated by GulfSlik II, the model designed by the King Fahd University of Petroleum and Minerals Research Institute in Dhahran, extends through April. 30 March oil observations and weather update thus remain the same.

2. Based on average wind data for the Gulf area in April, the model projects that the net movement of the spill will be in a southeasterly direction, roughly paralleling the coastline. Coastal impacts are expected during high tides.

U N C L A S S I F I E D

U N C L A S S I F I E D

PERSIAN GULF OIL SPILL

SITREP 41

03 APR 1991

C. Weather:

1. Wednesday through Friday: A low moving across Turkey into the southern Soviet Union will cause winds over the Gulf region to come around from the ESE to SE 10 to 20 knots. A front associated with the low will move through the area by late Thursday. A chance of isolated showers along the front is possible. Winds behind the front will be NW to NNW 6 to 16 knots.

2. Saturday through Thursday: By Saturday the pressure gradient will weaken sufficiently to allow the land/sea breeze circulations to become the dominant wind regime. Winds along the coast will generally W 4 to 8 kts at night and NE 10 to 14 kts during the day.

U N C L A S S I F I E D

From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 5 Apr 91

To:	<u>Agency</u>	<u>POC</u>	<u>FAX</u>
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	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
	JCS Crisis Action B GEN John Jumper Team		Voice: 703-697-4801 703-693-5487
	USACoE EOC	Gary Campbell/ John Elmore	202-272-0378
	EPA Emerg. Ops Cntr	Jim Makris	202-252-0154
	CG LANTAREA	VADM Thorsen	8-664-3465
	IMO	CDR Pascoe	011-44-071-587-3238
	Canadian Coast Guard	Mr. Tom Ring	613-998-4168
	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached are overflight and forecasting for 4 April 1991. The transmission is three pages long.

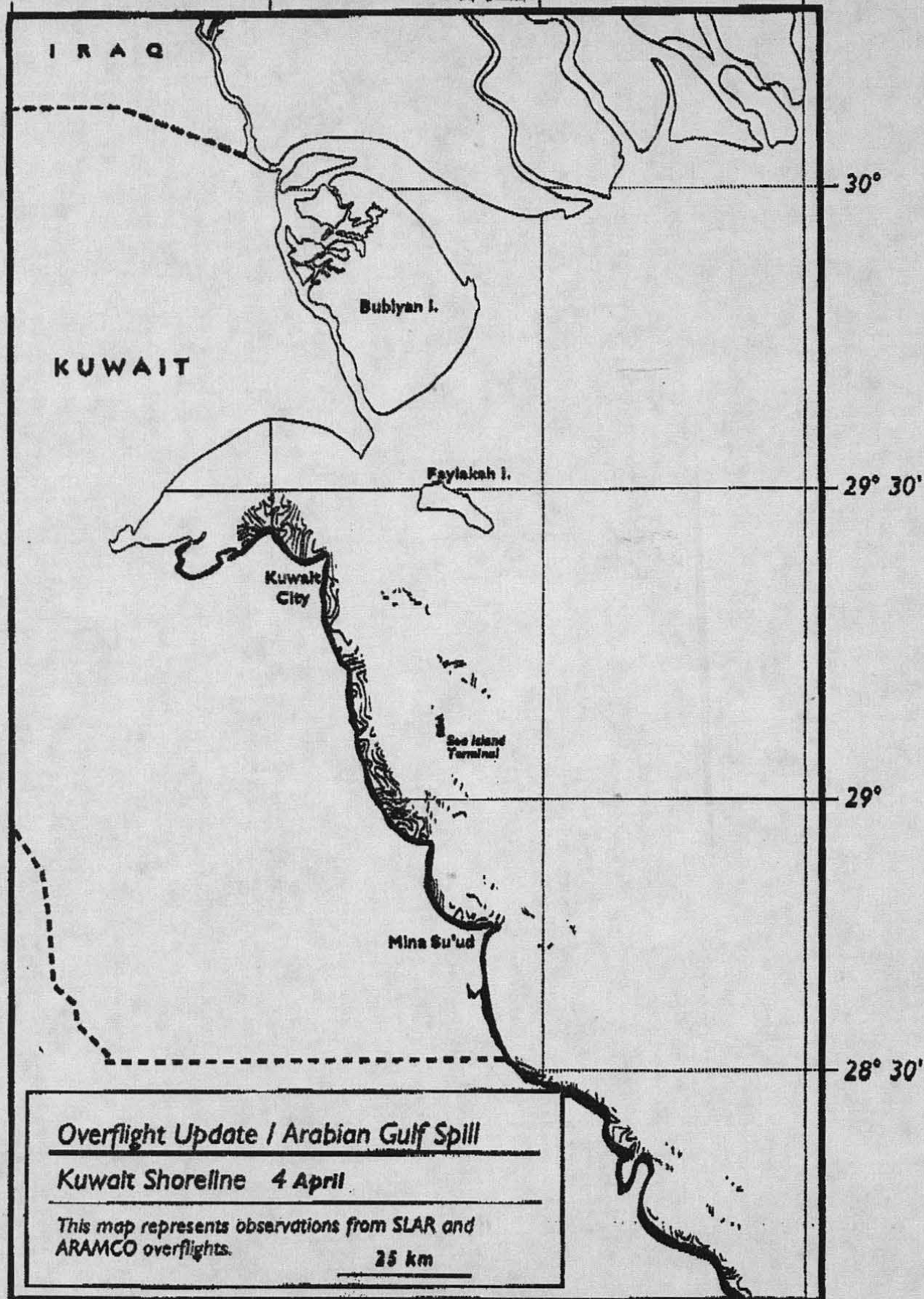
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47° 30'

48°

48° 30'

49°



Overflight Update / Arabian Gulf Spill

Kuwait Shoreline 4 April

This map represents observations from SLAR and
ARAMCO overflights.

25 km

UNCLASSIFIED

UNCLASSIFIED

48°30'

49°

49°30'

28°30'

28°

27°30'

27°

SAUDI
ARABIA

Overflight Update / Arabian Gulf Spill

4 April

This map represents observations from MEPA overflights.

Hargus

Karan

Kurayn

Jana

Abu
Ali

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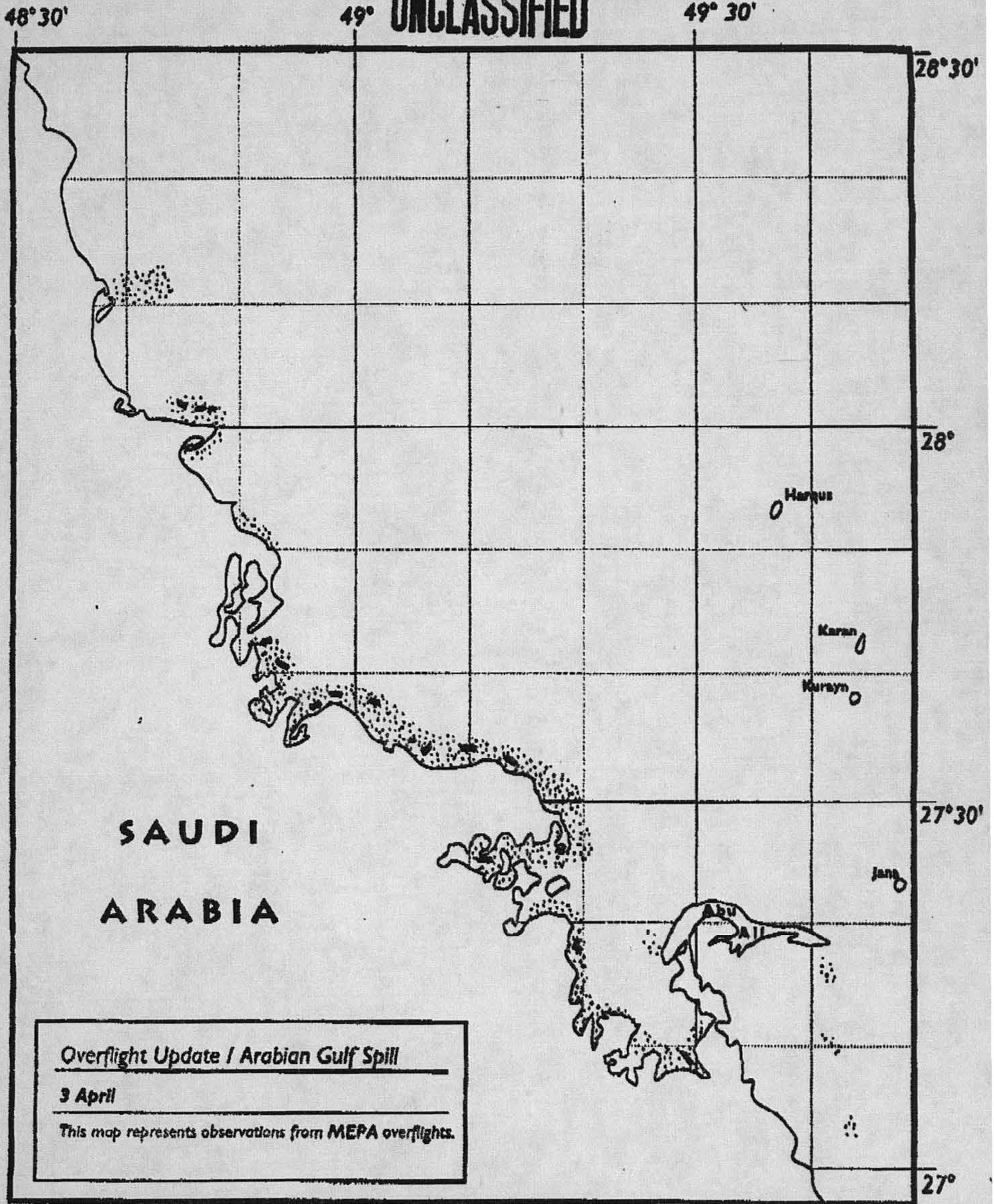
From: CAPT William F. Holt, USCG
Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 4 Apr 91

To:	<u>Agency</u>	<u>POC</u>	<u>FAX</u>
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Mr. Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
	DOD Crisis Coord Center	Joe Muckerman	703-697-1920
	JCS Crisis Action B Team	GEN John Jumper	703-697-4801 Voice: 703-693-5487
	USACoE EOC	Gary Campbell/ John Elmore	202-272-0378
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	CG LANTAREA	VADM Thorsen	8-664-3465
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	Canadian Coast Guard	Mr. Tom Ring	613-998-4168
	Dept of the Navy	CAPT Viglienzzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

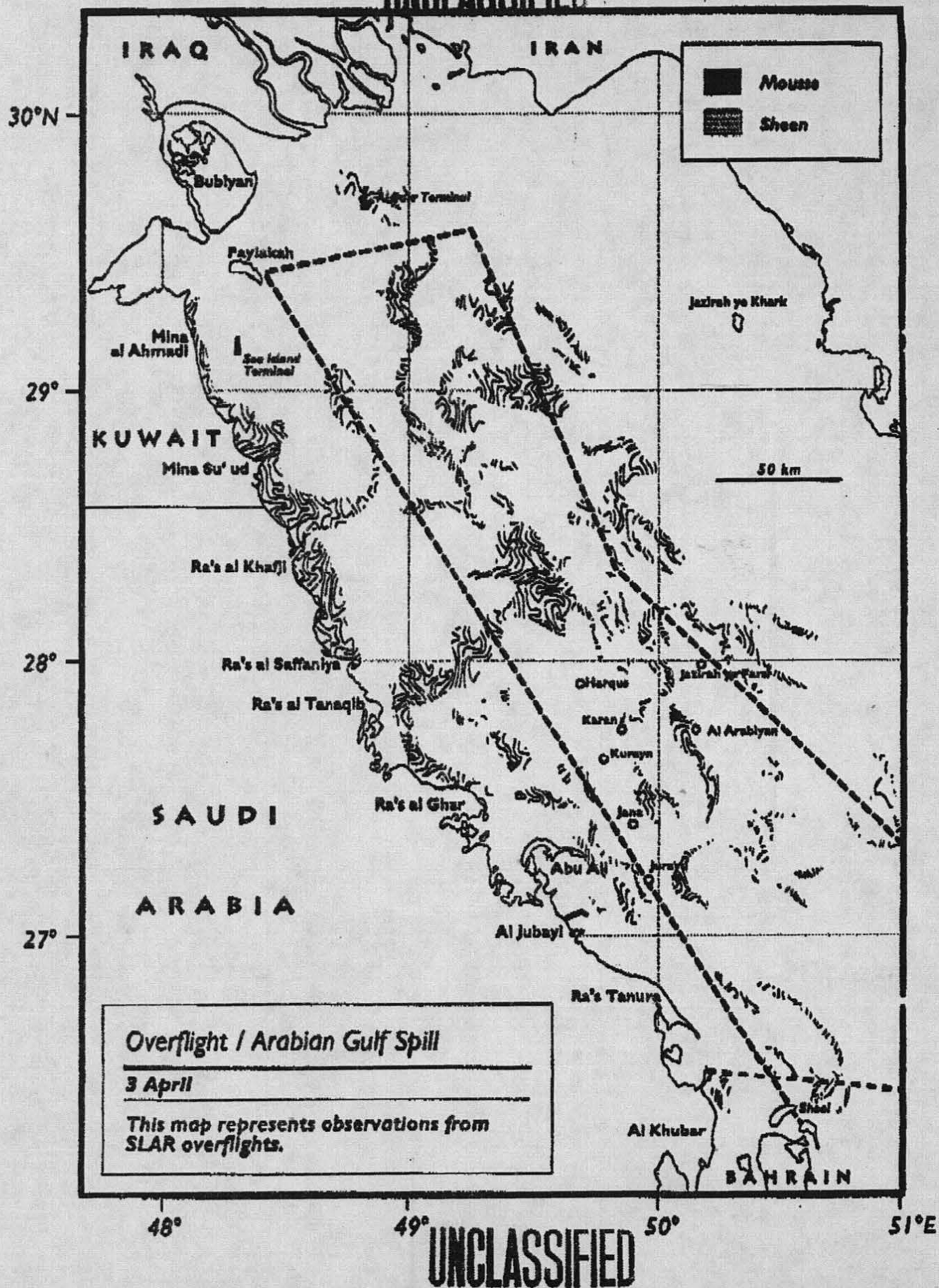
Attached are overflight and forecasting for 3 April 1991. The transmission is four pages long.

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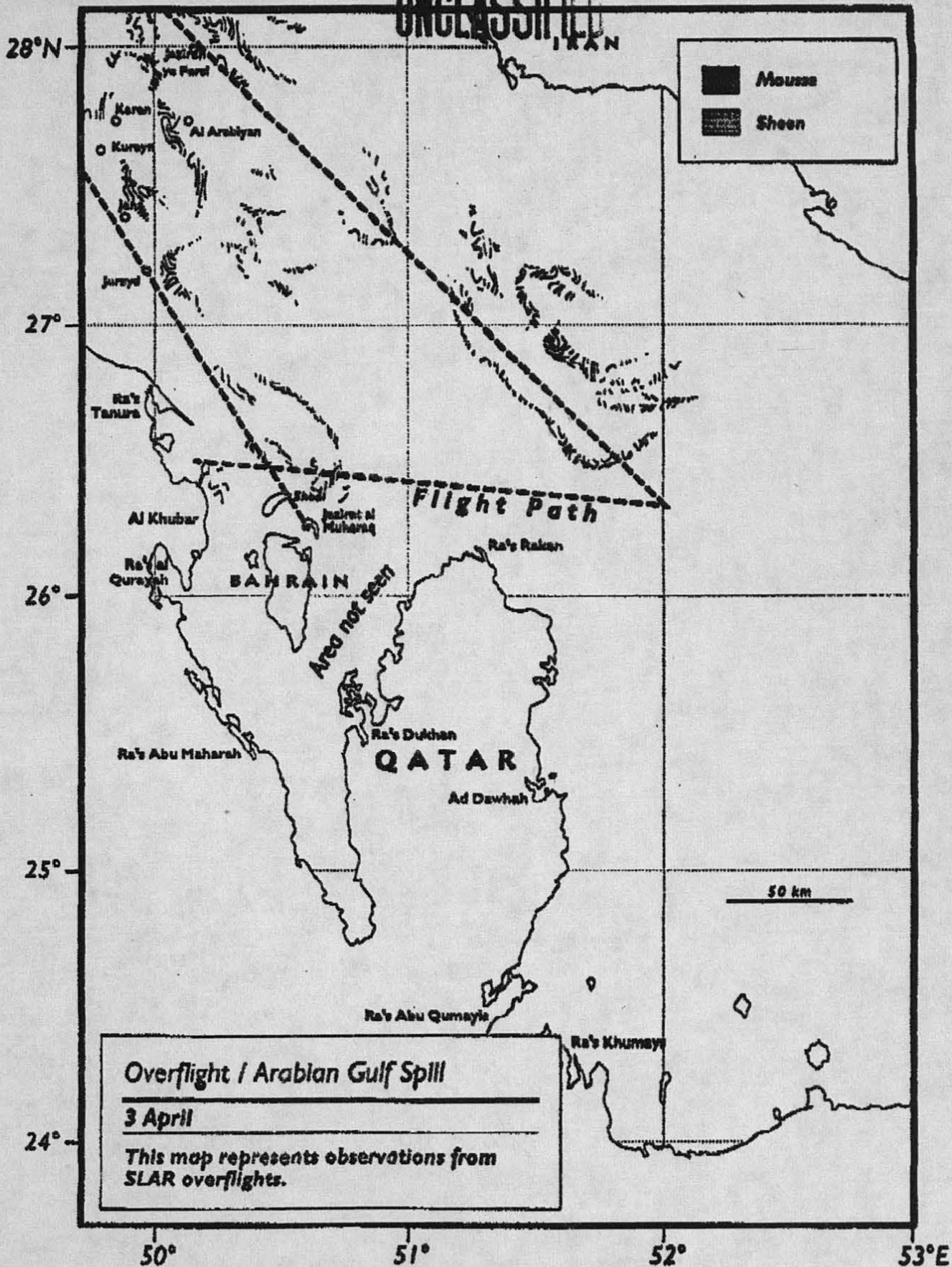


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Chief, Marine Environmental Protection Division
2100 Second Street, SW
Washington, DC 20593-0001
(202) 267-0518

Date: 3 Apr 91

To:	<u>Agency</u>	<u>POC</u>	<u>FAX</u>
	White House Situation Room	Steve Danzansky	202-456-2223
	D.O.E.	Mr. Bill Davis	202-586-3859
	D.O.S.	Bob Blumberg/ Tucker Scully Oil Spill Task Force	202-647-6610
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	Dept of the Navy	CAPT Viglienzone, USCG	703-693-6465
	U.S. Coast Guard Congressional Affairs	CAPT Hull	202-366-2351

Attached are overflight and forecasting for 2 April 1991. The total transmission is three pages long.

APR 02 '91 21:17 HAZMAT

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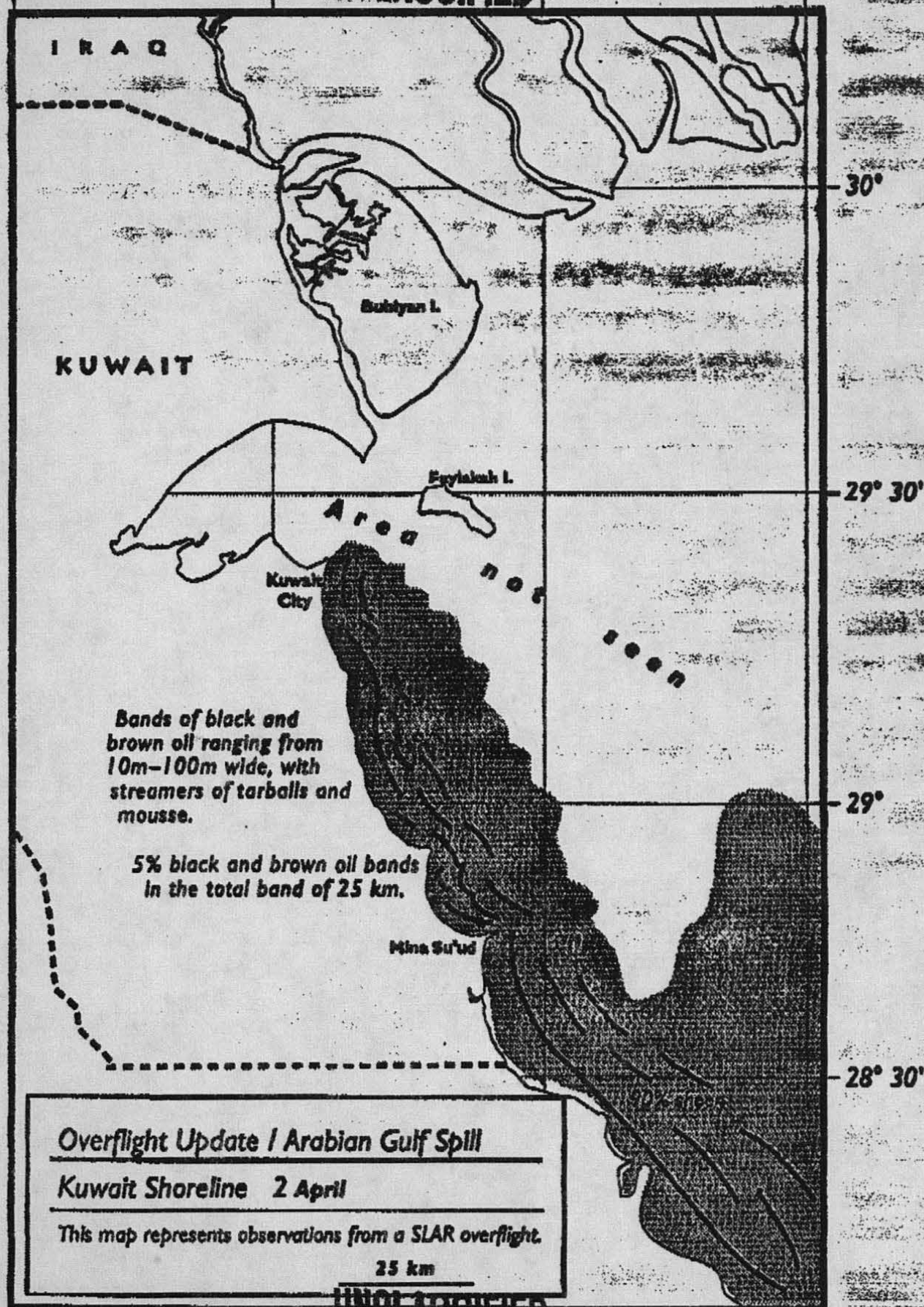
UNCLASSIFIED

47° 30'

48°

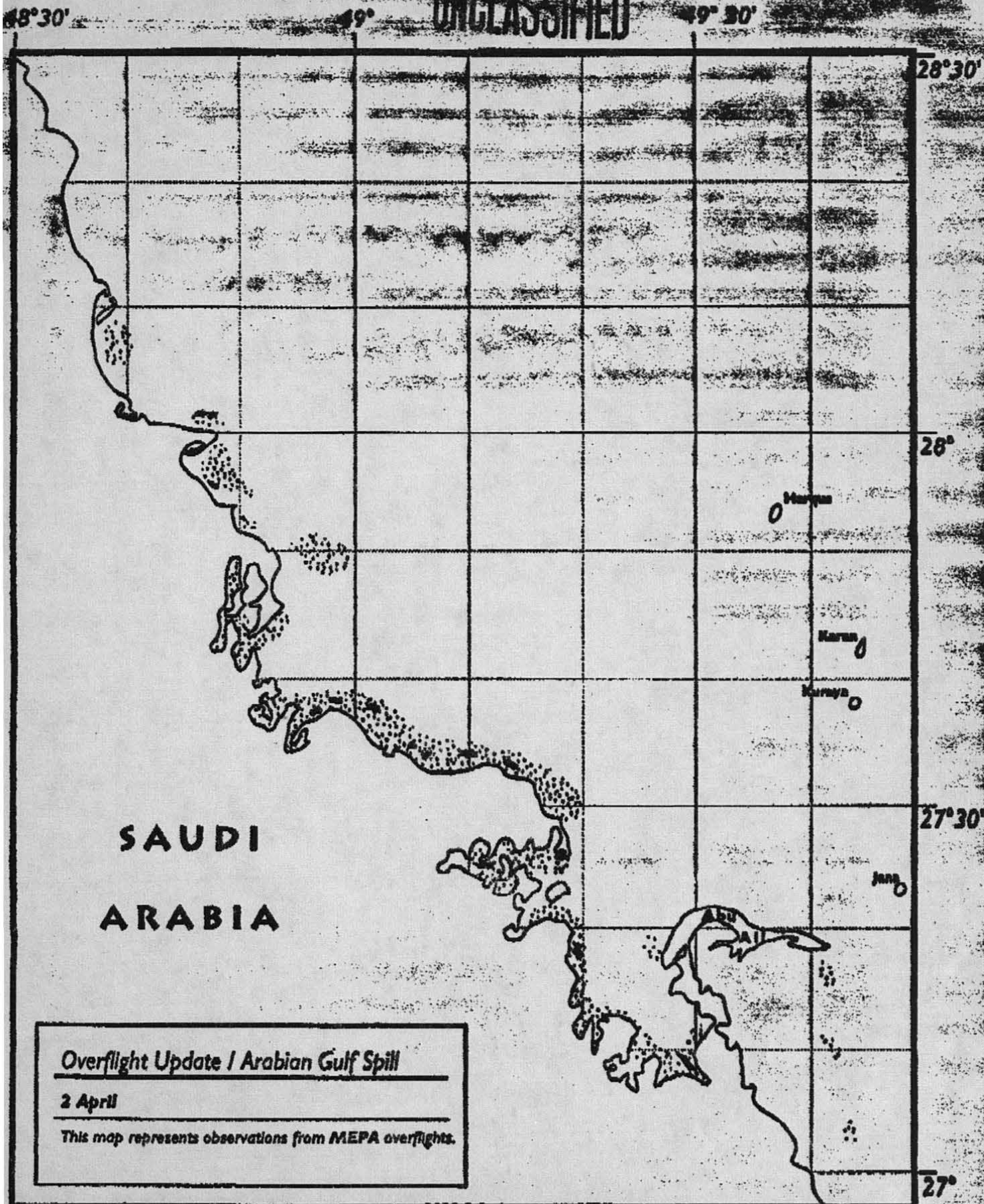
48° 30'

49°



APR 02 '91 21:18 HAZMAT

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Source Citation

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